Long Range Interpretive Plan

Lowell
National Historical Park

March 1997

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Introduction

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I. As with most national park units, Lowell faced the real possibility of stagnant budget growth. Yet local partners, including a recently created Chamber of Commerce and the Greater Merrimack Valley Convention & Visitors Bureau, understandably expect continued support for their efforts to use heritage tourism to build a healthier local economy.

II. At the same time, the Government Performance and Results Act (GPRA) required that all government agencies identify results-oriented strategic goals and create measurements of achievement. Via a still evolving eight step process adopted by the Northeast Field Office and described in Appendix I, GPRA clarifies priorities and links resources to what matters most. Rather than focusing on effort, this process measures results and improves accountability.

III. Finally, the newly introduced NPS approach to interpretive planning (see Chapter III of NPS-6, Interpretation and Visitor Services Guideline, 1996) and specifically the Comprehensive Interpretive Plan (CIP) provided a mechanism to evaluate and, where necessary, to redesign a park's interpretive program.

In fact, many questions related to interpretive programming at Lowell could be addressed via a CIP.

1. What are Lowell's primary themes and significance?

2. Where does Lowell fit into the national historical context?

3. What are the most important resources of Lowell National Historical Park?

4. What are the essential components of a visitor's experience at Lowell and how can those components be delivered most efficiently and effectively via interpretation?

5. Does costume interpretation fit into the park's overall interpretive program?

6. What is the best way for visitors to "tour" Lowell? How effective (and efficient) are walking tours?

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8. Are existing educational programs meeting the goals of the park? Do they reflect current educational theory?

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12. What role should technology and audio visual media play in interpretation? Are existing AV programs effective?

13. How can volunteers play a greater role in park programming?

Coordination

This LRIP, a critical component of the CIP, is an attempt to merge these three initiatives and coordinate potentially separate planning processes. Interestingly, a significant amount of overlap facilitated this merger. And although the document's language is primarily that of interpretation, there will be numerous references to GPRA throughout. Crossover proved to be relatively easy. (see Appendix II for a GPRA and CIP comparison)

Part 1

Background for Planning

Purpose & Significance of the Park: Mission Statement

The purpose of Lowell National Historical Park (NHP) is primarily defined by legislation. Established on June 5, 1978, by Public Law 95-290 (16 USC 410cc.) the park preserves and interprets "the nationally significant historical and cultural sites, structures, and districts in Lowell, Massachusetts, for the benefit and inspiration of present and future generations." Lowell's physical resources include the original 5.6-mile power canal system, major cotton textile mill complexes, and evolutionary streetscapes of commercial and residential structures. Equally significant is Lowell's rich cultural heritage, reflected in the ethnic diversity of its citizens whose forebears, for the most part, came to Lowell to work in the mills.

Mission Statement

As suggested in Step 1 of GPRA and based in the realities of legislation and physical resources, park staff reviewed key documents and developed the following Mission Statement (Step 2 of GPRA).

> Lowell National Historical Park preserves and interprets the nationally significant historical and cultural sites, structures, and districts in Lowell, Massachusetts, that represent the most significant planned industrial city in the United States and symbolizes, in physical form, the industrial revolution. The park tells the human story of the industrial revolution and the changing role of technology in a 19th and 20th century setting. The cultural heritage of many of the ethnic groups that immigrated to the U.S. during the 19th and early 20th century, and which continues today, is still

preserved in Lowell's neighborhoods. The park provides a vehicle for economic progress in the community, encouraging creative and cooperative preservation and interpretive programs.

Though many developments associated with America's Industrial Revolution had their origins elsewhere, it was in Lowell that technology, water power, capital, labor, and industrial organization were combined on a scale that portended industrialized, urbanized society. It was Lowell's factory system, established by a group of Boston investors in the early 1820s, that linked new technology with revolutionary forms of organization and finance to allow mass production of cotton cloth. Lowell emerged as both a pioneer and symbol of a new industrial era.

As indicated by the Mission Statement, the importance of Lowell, however, extends well beyond the story of its early years. The Lowell experience offers singular opportunities to interpret the full socioeconomic, technological, and environmental implications of the industrial revolution, from Lowell's bright beginnings to decades of economic decline to more recent revitalization. As 19th century Lowell represented a laboratory of industrialism, the Lowell of more recent times serves as a model for the revival of America's older industrial cities. Through a variety of partnerships, federal, state, and local agencies have joined with the private sector to transform Lowell, once again, into a pioneer and symbol of a new "revolution" in American heritage preservation and economic renewal.

Mission Goals

Elaborating on the Mission Statement, park staff have also prepared five Mission Goals. These Mission Goals, developed as Step 3 of GPRA, represent the ideal conditions that the park wants to attain or maintain. They emerge from agency goals circulated in March 1997 (see Appendix III for the complete text of those agency goals) and are appropriately expressed in terms of desired future conditions.

1. Visitors understand the dramatic and essential changes in the American way of life which were

brought about by events that took place in Lowell, MA from its beginnings in the early 19th century, through its decline in the 20th century, and into its revitalization today.

2. All park facilities and structures are operated and maintained to provide safe interpretive, recreational, transportation, and hydropower.

3. Lowell NHP preserves historic structures and cultural resources that are relevant to the history of Lowell and the industrial revolution.

4. Partnerships with government, private and public organizations involved in the ownership, development, management and maintenance of Lowell's cultural and historic resources are fostered to provide opportunities for preservation, interpretation, and education.

5. A flexible, cost effective park organization exists responsive to community economic development and historic preservation and educational initiatives.

Themes

Themes and GPRA

Themes are tools used extensively by interpreters. They define and verbalize those stories that lie at the heart of a park's significance. They are, in effect, an interpreter's way of describing content outcomes. Interpreters implement GPRA goals related to visitor understanding by designing themes that will capture the essence of a park's resource and etch it in visitor memory. Themes organize information. They ground history in context. They make the past relevant to the present.

Theme Selection

What are Lowell's themes. What messages are contained in the park's resources? What information should visitors receive? What concepts should they understand as a result of their visit to Lowell? In the terms of Mission Goal #1, how will visitors come to "understand the dramatic and essential changes in the American way of life which were brought about by events that took place in Lowell, MA from its beginnings in the early 19th century, through its decline in the 20th century, and into its revitalization today."

First addressed in the late 1970s and early 1980s by multidisciplinary groups of historians, planners, and museum curators from within and outside the NPS, these questions still rest at the core of any discussion of interpretive themes. The General Management Plan for the park, released in 1981, and the park's first Interpretive Prospectus (1984) identify five aspects of Lowell's industrial history around which interpretive programs, activities, and permanent museum exhibits should be organized.

- Power
- Capital
- Labor
- Machines (Technology)
- The Industrial City

The identification and treatment of these topics at Lowell placed the park at the forefront of NPS interpretation of industrialized America. Many of the historical issues and events explored provided NPS interpreters with a creative and provocative format for educating the public about Lowell's role in the nation's early industrial revolution as well as in America's transformation into a modern, urban-centered industrialized society. Over the past decade, new scholarship in American history and new NPS interpretive emphases in such areas as American society and the environment have shaped the park's interpretation at Lowell. The selection of themes for this LRIP reflects these influences.

As a result, one new topic (Transformation of Nature) has been introduced and the old topic of Power has been subsumed largely under Technology. Other changes represent only slight revisions in content and build on nearly two decades of continuity and consensus rooted in the early years of park planning.

Presentation & Use of Themes

The topics with theme statements presented below (and discussed more fully in Appendix IV) and the interpretive framework, included as the Appendix V, are tools to be used by park interpreters to develop individual park programs.

Overarching Theme

Lowell is America's earliest planned industrial city, where new forms of technology, power generation, finance, labor and industrial organization were combined on a scale that portended today's industrialized and urbanized society.

Topic 1, Labor: Workers & Their Organizations

The shift from craft production in the home and in small workshops to industrial production in factories revolutionized social relations in America and gave rise to an enduring working class.

Subtopics

A. Female Workers
B. Child Labor

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Subtopics

A. Female Workers
B. Child Labor

C. Male Workers
D. Immigrant Workers
E. Workers' Response to Factory Work

Topic 2, Technology: Engineering the Industrial System

Key advances in textile and waterpower technology enabled Lowell to become the premier industrial city of the first half of the 19th century and a leading textile manufacturing center until the 1920's.

Subtopics

A. Bale-to-Bolt
B. The American Water Turbine
C. Technological Laboratory
D. Building the Mills

Topic 3, Capital: Owners & Managers

The successful organization and management of the mills and the City of Lowell became a model for other industrializing cities in the nation and helped the Boston Associates control one-fifth of America's cotton production by 1850.

Subtopics

A. Market Revolution
B. Production for Profit
C. Enterprising Elite
D. Managing the Mills
E. The Mills Move South

Topic 4, Transforming Nature: Watershed & Waterpower

The textile corporations of Lowell established a significant legal and ecological precedent in gaining ownership of the water rights of the Merrimack River watershed, making water a commodity to be bought, manipulated, and sold, and allowing transformation of the river's ecosystem.

Subtopics

A. Waterpower
B. Pollution
C. Mill towns on the Merrimack

Topic 5, Building Community: Urbanization & Ethnic Culture

Lowell became the primary model for American manufacturing cities in the first half of the 19th century; it continues today as a colorful quilt of neighborhoods--home to immigrant families and diverse ethnic cultures.

Subtopics

A. Building the City
B. The Corporations and the City
C. Immigration and Ethnic Culture
D. Revitalization and Lowell's Future

Park Goals and Issues

Independent of the need to communicate information, to establish historical context, and to present the park's story via memorable themes, the CIP recognizes that interpretation needs to address goals and issues crucial to the management of the park. Similarly, Step 4 of the GPRA process involves preparation of Long Term Goals. These Long Term Goals help to define how Mission Goals will be fulfilled. They include measures to determine progress and will be used to evaluate the contributions of all interpretive programming.

Prepared in February of 1997, Lowell's Long Term Goals are:

1. By the year 2002, 85% of visitors surveyed can identify one major change caused by the industrial revolution as reflected by the Lowell Experience.

2. By the year 2002, all "A" ranked historic buildings located within the park and preservation district are protected from demolition, neglect, and inappropriate development.

3. By 2005, 50% of the park's priority resources identified in the park's 1997 Resource Ranking Worksheet (4-3) are preserved and maintained in good condition as defined by NPS-28, Cultural Resource Management Guidelines.

4. By the year 2002, all park programs and facilities have technological upgrades recommended by the park's technology task force with flexibility and adaptability for meeting future technological needs.

5. Within seven years, all Lowell NHP employees are trained in basic competencies and NPS Mission as defined by NPS.

6. By the year 2003, 30% of the costs associated with running the park's educational, cultural, visitor service, and maintenance and development programs are

supported by new and enhanced public and private partnerships.

7. By the year 2000, the organization of the park represents actual needs and efficiencies for park and cluster functions as defined in the park's 1998 Organizational Management Plan.

Achievement of these Long Term Goals is a park-wide challenge. Interpretation will contribute in the following specific ways:

- Lowell is committed to a strategy that links heritage tourism to the city's economy. As a major partner in the effort to focus attention on the city's industrial past and the importance of the industrial revolution, the NPS should develop strategies that will **create positive interest in Lowell and increase visitation** (Long Term Goal #1). For example, interpretation of the resources of Lowell's downtown needs to be re-examined and new opportunities explored. The city will become the classroom or, as the park's handbook argues, the museum. To accomplish this goal, the types of interpretive media chosen may need to be diversified. Non-personal services like audio tours may need to be explored even while, and perhaps so that, new quality opportunities for visitor participation can be designed. Redeployment of staff may be needed to provide different types of personal services (storytelling, costumed interpretation, historical drama, music, cultural demonstrations, etc.). Interpretation may need to reach additional off-site audiences that do not now visit Lowell. Programs may need to be targeted to attract specific groups (see the list of targeted audiences under "Visitor Profile"). Shorter programs may be needed for some audiences, particularly for family groups. Evening programs might attract different groups not now enticed to visit the city.

- **New relationships will be needed with partners, with city agencies, and with cultural groups.** (Long Term Goal #6). For example, the park might be

called upon to share interpretive expertise and develop training that heightens local awareness of the city's heritage and interpretive programming. Cooperative activities may be needed at the city as well as at the regional level (more cooperation with other national park areas or other cities, corridors, etc. that also interpret industry). A coordinated calendar of events could pool the resources of partners, allow larger, better publicized events, and increase the efficiency of effort required for planning and staging. The existing educational programs could be linked to outreach to the student's families.

- With zero growth expected in the number of dollars available from the NPS, and with heightened expectations of cooperation expressed by partners, the park needs to **re-think how it uses its staff and where it finds funding.** (Long Term Goals #5, #6, & #7). For example, staff may need to facilitate the delivery of interpretation rather than deliver it themselves. In return, partners may need to seek funding that also contributes to the park's interpretive goals. NPS interpretive programming may need to be less labor intensive. With NPS training, partners may need to carry more of the burden of personal services. Training also may be needed to prepare staff for new roles. The skills developed could form the nucleus of a training curriculum offered to other NPS sites and to the broader museum community. Curricular materials developed could be circulated widely, including via Internet.

- As **technology** expands communication possibilities, the park needs to investigate new ways to reach targeted audiences, particularly off-site audiences, and utilize those that appear to be practical and achievable. Certainly, the time has come to use the Internet to meet interpretive objectives. (Long Term Goal #4).

- Lowell's downtown is an impressive collection of restored historic structures. The **value of preserving** these buildings individually as well as the larger

cultural landscape, must be part of the message communicated by the park. The **attractive physical setting** that the restored downtown now offers should be a part of the positive message that Lowell uses to attract visitors. (Long Term Goals #2 & #3).

Essential Visitor Experience

The CIP recommends that goal-setting be carried forward one additional step. In addition to the factual content communicated during a visit and the goals and issues addressed by interpretation, it is important to describe the nature of the visit itself. While themes define what the visitor will know about park stories, and issues and goals explain the realities facing managers, this "Essential Visitor Experience" section will describe how visitors will feel, what impressions will emerge during a visit and, in general, what will facilitate those feelings and impressions. Accomplishment of this "essential experience" is based in a thorough knowledge of interpretive philosophy and technique. It grows out of the professional interpreters assessment of the outcomes that interpretive media can realistically accomplish.

Lowell needs to project a **positive and easy-to-visit image** beginning off-site and continuing through the entire on-site experience. From the outset, visitors need to experience **a sense of arrival** that **includes the message that Lowell is a national park.**

Visitors to Lowell currently have a **variety of options** available to them, and that variety should be continued. Many are surprised by the number of things that they can do. When faced with choices, however, visitors can become confused, fail to make the best use of their limited time, and leave unsatisfied or with a disjointed impression of the park's stories. **Efficient orientation**, then, is crucial to a positive visitor experience. It can occur on-site or even before the visitor arrives. The challenge is to use Lowell's variety in a positive way, to manage and present options quickly in straightforward formats that allow visitors to design a personal, easy-to-follow schedule of activity.

Because the Lowell story has many nuances and spans nearly 200 years of history, visitors need help in organizing not just park activities but historical information as well. It is important that interpretive programs offer an **integrated message**. Interpretation

needs to connect not segment key aspects of Lowell's story (see "Themes"). Lowell needs to be placed firmly in a **regional and even national context**. Only then will more specialized programming and options that provide additional details about a particular piece of the story make sense to many visitors.

All of these goals combine to make **the visitor center the all-important first stop**. This is the place to introduce the park's stories, provide assistance on how to see the park's resources, and take full advantage of park programs. Visitors need to know what there is to see and be able to make decisions about relevance to their personal interests and time schedule. It is also important that available information be presented via **personal service**. Options need to be explored and questions fully answered. For many visitors, a well-trained and out-going employee can offer this type of service best. In addition, because some visitors are unsure and tentative in an urban setting, the presence of park staff throughout the areas that are most visited will provide reassurance and facilitate learning.

Urban, industrial history also poses several specific challenges. Some feel that there is little at an industrial site to instill the sense of beauty that many visitors equate with a worthwhile park experience. Nor is Lowell dedicated to "great men" or "great events." Even though visitors come face to face with historical characters very much in the "everyman" mold, some question the park's relevance to their own lives and to the post-industrial age. To counter these potentially negative feelings, **interpretation at Lowell needs to engage and involve visitors.** Media should introduce activity and provide memorable experiences that reinforce historical messages. Programs should focus on universal emotions. For example, all visitors can understand both the desire for financial success and the need for safe work with fair compensation. Via diaries, news accounts, corporate reports, oral histories, etc., Lowell's past can speak for itself with eloquence. The power of rushing water and the constant clatter of looms provide memories not soon forgotten. The challenge is to find interpretive media

that reinforce the park's major messages. Activity needs to carefully grounded in purpose. The impressions created by interpretation need to illuminate the past not solely entertain the present, however popular that might be.

Visitor Profile

The CIP correctly insists that, to be effective, interpreters must know their audiences as they design and deliver their programs. Outcomes, in the form of new programming, must be targeted and media selected to meet audience needs.

Existing

Currently, information on visitors is collected in three ways:

- Those who take a ranger-led program provide information on where they live.
- Groups that attend educational programs provide information on age and geographic locale.
- Rangers gather anecdotal data as they interact with visitors.

The following profile is constructed from these sources. More precise data soon will be collected via the NPS's Visitor Services Project.

Visitors to Lowell tend to live within a 40 mile radius. Statistics from 1991 indicate that 68% of all visitors who made reservations for interpretive programs lived in Lowell (15%) or Massachusetts (53%). They tended to be white and middle-class, although some of the park's partners have more ethnic diversity and more visitors who do not speak English (the Folklife Center, for example). Usually, visitors intend to come to the city.

In 1991, school groups that participated in the park's education program (offered 9 months of the year) accounted for more visits than the Canal Tours (offered May-October) or the Special Interest Tours (offered year round). All Lowell students in the 4th grade visit the park. Although school groups are understandably from communities within easy commute, they are more diverse (students of color are still in the minority). It is not uncommon for students to bring their parents for a follow-up visit.

There are several specialized audiences of note:

- Special events like the Lowell Folk Festival bring in large numbers of visitors for specific activities. In the past, this type of programming received more emphasis and accounted for higher visitation counts.
- A few well-publicized conferences (the women's history conference, the industrial history conference, the Kerouac Festival) and some college classes attract particularly well-informed audiences.
- In autumn, the changing colors of New England's hardwoods increase visitation.
- Occasionally, family ties to the Lowell area will bring visitors interested in checking out their personal roots.

Potential

In addition, there are many important categories of potential visitors. Marketing and changes in interpretive programming might attract the following groups:

- Boston's thousands of tourists and travelers along I-495
- Greater Lowell residents.
- More recent immigrants to Lowell.
- Elder Hostel groups.
- Labor organizations.
- Tour bus junkets.
- Non-school youth groups.
- University visitors.
- Conventions.
- Electronic visitors who might be surfing the Internet.
- Visitors to other park service sites or sites related by theme (industry, etc.).
- Hungry visitors who might appreciate Lowell's ethnic restaurants.
- Socially adventurous visitors who might take advantage of Lowell's cultural diversity.
- Architectural aficionados who might appreciate Lowell's restored buildings.

- Fans of Lowell's new sports teams.

Targeted Audiences

When the existing and potential audience are considered in relation to interpretive programs, it becomes clear that priorities need to be established. The LRIP will make every effort to create programs that will address the needs of the following audiences:

- Organized groups, including tour bus groups. The most productive strategy may be to include Lowell in the larger Massachusetts or New England itinerary of these groups.
- Both school and non-school youth groups.
- Families with children.
- Adults without children.
- Greater Lowell residents.
- Visitors to other Massachusetts parks.

Existing Facilities & Media

Tangible Resources

As part of GPRA's Step 2, park staff considered each of the park's tangible resources. For each one, they prepared a short, single sentence statement of value or significance. In order to define how each resource contributes to the park's mission, they assigned a "HIGH," "MEDIUM," or "LOW" ranking. The results are summarized below. The value or significance statements are included as interpretive programming is discussed for each resource in Part 2.

The following tangible resources, listed in alphabetical order, received a "HIGH" ranking:

Assets Building
Boott Mill Boardinghouse/Mogan Center
Boott Canalway
Boott Mill Complex
Eastern Canalway
Francis Gate Complex
Hamilton Canalway
Kirk Street Agents House
Lower Locks Complex
Lower Pawtucket Canalway
Maintenance Building
Market Mills/Visitor Center Complex
Merrimack Canalway
Merrimack/Concord Rivers
Northern Canalway
Pawtucket Canalway
River Reach
Suffolk Mill
Swamp Locks Complex
Western Canalway

These resources received a "MEDIUM" ranking:

Boardinghouse Park
Mack Building
Old City Hall

Trolley line

These resources received "LOW" ranking:

Hadley House
Public Art
Rail Car & Locomotive
Rialto Building

It is important to note that not all of these tangible resources are, or need to be, addressed by interpretive programs.

Existing Interpretive Programming
When the CIP calls for a summary of existing interpretive facilities and media, it parallels Step 5 of GPRA (Analyze Inputs and Resources). Although the lines between inputs, outputs, and outcomes sometimes blur when considering interpretive programming, the intent of both the CIP and GPRA Step 5 is the same, i.e., to summarize the scope and nature of what is available now as a point of departure for new programming.

Plans
Interpretation at Lowell NHP is currently guided by a General Management Plan finalized in 1981, an Interpretive Prospectus from 1984, and a 1992 Statement for Interpretation. The Interpretive Prospectus outlines the park's basic approach to interpretation.

Current Staffing, Volunteers, Budget
Staff and Volunteers:

- Staffing for interpretation for FY96 totaled 55 positions or 35 FTE.

- Of those, 21 positions or 7.99 FTE were temporary and 34 or 27.34 FTE were permanent.

- Of the park's total FTE, 28.2% was devoted to interpretation.

- The park had 1,480 volunteers who donated 14 FTE.

Budget:

- The FY96 budget for interpretation (ONPS) totaled $1,113,066 or 18% of the total park budget.
- $6,500 was allotted to the volunteer program.
- The cooperating association donated $9,279.
- The sum of these accounts equaled $1,128,845.

For a more detailed description of staff assignments and program costs, see Form 10-769, the Annual Interpretive Program Report, in Part 3 of the Comprehensive Interpretive Plan.

Visitor Center

Information and orientation occurs in the Visitor Center located in the Lowell Manufacturing Company complex on Market Street. A major audio visual program and exhibits introduce the park's themes. Staff are on hand to help orient visitors, answer questions, make tour reservations, etc. Free informational literature is available and a sales area offers additional interpretive materials. Seating and rest rooms are located there. Most guided tours meet and leave from the Visitor Center.

Boott Cotton Mills Museum

Nearly 100 operating power looms fill one of the rooms on the first floor of the Boott Museum. When running, these looms provide an unforgettable impression dominated by noise and vibration. On the second floor, exhibits cover a variety of topics including the growth of Lowell's mile of mills, the mills' workers, the technology that made large-scale textile production possible, and the types of cloth produced. Audio visual programs explain the tensions that existed between agriculture and industry as well as labor and management. Video programs use oral histories to introduce visitors to working conditions. And

an interactive program encourages visitors to consider the future of American workers.

A large sales area offers visitors additional materials on park themes.

Education Programs
Boott Mill is also the home of the Tsongas Industrial History Center (TIHC), a joint project of the NPS and the University of Massachusetts Lowell. The center offers teacher training, interactive exhibits and programs for school groups, and workshops.

Suffolk Mills
A restored and functioning 19th century water turbine and related exhibits are located in the Suffolk Manufacturing Company building. The dynamic exhibits show how power is transmitted from the turbine by belts and pulleys to an operating loom.

Canals and Locks
Located throughout the city, many of Lowell's 5.6 miles of canals are accessible to visitors and several locks, gatehouses, etc. have been restored.

Working People Exhibit (Boardinghouse/Mogan Cultural Center)
The lives of the mill girls and the immigrant workers who replaced them in the mills are interpreted via furnished rooms and exhibits in the Boott Mills boardinghouse.

Tours
A variety of ranger-led tours explore the city's canals and neighborhoods, as well as the shores of the Merrimack River. Visitors travel by foot, boat, trolley, even bicycle.

Handbook
A park handbook places Lowell into context, provides considerable background history, and offers information on how to visit both the park and the city.

Public Art

A variety of public art projects interpret the industrial and human history of the city.

Interpretive Partners

Several organizations are also involved in interpretation:

- The New England Folklife Center (located in Boott Mill) conserves and supports the rich culture of the region via both exhibits and public programs.
- The Lowell Historical Society promotes local history through publications, exhibits, and public programs.
- The Patrick J. Mogan Cultural Center houses the Working People Exhibit and the University of Massachusetts Lowell's Center for Lowell History archives.
- The Whistler House Museum of Art functions as an art center and home for works by James Whistler, John Singer Sargent, and other noted regional artists.
- Other partners include the: New England Quilt Museum, Brush Art Gallery, Lowell Heritage State Park, Lowell City Parks & Recreation Department, Lowell Office of Cultural Affairs, and Boston & Maine Railroad Historical Society.

Part 2

Interpretive Program Description

Interpretive Services & Facilities

Presentation
The interpretive services offered in this plan could be presented in a variety of different ways. The format adopted lists sites and, in a few cases, non-site specific interpretive opportunities. In each case, as recommended by the CIP planning process, there are recommendations divided into three categories--Personal Services, Non-personal Services, and Partners.

GPRA References
In order to link interpretive planning with GPRA, references will be made to the HIGH, MEDIUM, and LOW rankings provided on the tangible resource review worksheet (Step #2). Whenever that ranking is HIGH, Mission Goals (Step #3), and Long Term Goals (Step # 4) also will be referenced. Where appropriate, the value or significance statements included on the resource review worksheet will be repeated.

Whenever interpretive roles are identified for partners (as prescribed in the CIP), successful implementation will advance Mission Goals #4 & #5 and Long Term Goal #6.

Priorities
Specific implementation priorities, however, will not be set in this LRIP. Instead they will be determined during GPRA's Step 6, Annual Goal Setting, a task that corresponds to the Annual Interpretive Plan recommended for the CIP.

Focus
As a final note about presentation, it is important for all readers to keep in mind that this document focuses on

what remains to be developed with only necessary references to existing interpretation summarized above under "Existing Facilities...."

Off-site Programming

Mission Goals #1, #2, #3, #4 & #5 and Long Term Goals #1, #4, & #6

Even before visitors arrive on-site, off-site interpretive programming can help achieve a positive image for Lowell.

Personal Services:

- The park will use its 20th anniversary (1998) to initiate a new promotional campaign and introduce new programming.

- A proposed marketing plan will identify groups to be targeted for publicity and then make recommendations on strategies that will reach these groups and encourage them to visit Lowell.

- A revitalized program of costumed interpretation, role-playing, and drama vignettes developed for on-site use also could be used off-site if supported financially. These high impact programs are attractive to electronic media.

- Radio & television offer opportunities to reach large numbers of listeners in the greater Boston area. Both public service announcements and news coverage of special and on-going events will provide access into these markets. Staff time will be needed to develop and to maintain contacts with the electronic media and to work with media professionals who will write and produce materials.

- An audio visual specialist position will be created to help produce promotional materials, interpretive programs, and documentary materials.

- Computer technology and the World Wide Web offer new and ever-expanding opportunities to reach

audiences around the globe. Staff time is needed to assess the potential of the computer market, to integrate appropriate existing interpretive materials into the park's website, and to ensure that newly developed materials are designed to serve Internet audiences whenever possible. Obvious website possibilities include: information about park programs, virtual tours of Lowell, networking and bulletin boards with other industrial and immigration sites and museums, and distribution of educational materials.

Partners:

- Outreach to the greater Lowell community will be expanded. That means that additional staff time will be invested in contacts with local, ethnic, civic, higher education, and business groups. The park should proceed with the promising concept of group liaisons, i.e., staff assigned to serve as contacts for specific groups or organizations. Cooperation with Lowell-area schools and with local ethnic groups could be expanded. Collaborative efforts like exhibit planning and the collection of historical information could be encouraged. Special events could be linked to local interests and, when possible, coordinated with other local events, including sports events, homecoming or visitation days at the University of Massachusetts Lowell, etc. The Education District/Interpretation District should build networks with organizations that serve family and youth groups and jointly identify programming that appeals to these constituencies (scouts, teachers, police, boys/girls clubs, "kids take the lead," etc.).

- The park's marketing strategy will be coordinated with the Convention and Visitors Bureau.

- Collaboration with other NPS and museum sites in New England will be explored. Possible outcomes could include jointly produced publications ("Industrial History Trail of New England" and a guide-map to the Merrimack River Heritage Corridor are examples), AV programs, staff training, and staff exchanges.

Park-wide Services

Mission Goal #1 and Long Term Goal #1, see also "Goals and Issues"

Several interpretive services have no particular tie to a single park facility or site. Instead, they play an important role in providing visitors with an integrated message

Personal Services:

- Costumed interpretation is possible in many locations throughout the park (see below: Agents' House, Boardinghouse and Boardinghouse Park, trolleys, weave room, Guard Locks, Pawtucket Gatehouse, Boott Courtyard, downtown, and Visitor Center Courtyard). Obviously, staffing would need to be redistributed if an extensive program of costumed interpretation were adopted. To begin, the park will find ways to reallocate a limited number of staff to an experimental program of costumed interpretation in a few carefully selected locations. Both research and training will be needed to develop characters and clothing. Specific techniques will need to be discussed and determined, i.e., first person, third person, role playing, storytelling, dramatic vignettes, and demonstrations.

Non-personal Services:

- The park needs a publication plan.

- The park handbook provides adults with an admirable overview of the park's history. In order to justify continued reprints, demand will need to be sustained. To help create demand, the handbook will be prominently displayed at all sales areas, at special events whenever appropriate, in educational packets that go to teachers, etc.

- The park needs a unigrid brochure that summarizes the park's messages, provides orientation to the city, includes self-guided walking tours along the canalway,

and introduces visitors to the rich physical, visual, and archival resources associated with the park.

- Because families with children are a targeted audience (see "Visitor Profile"), the cooperating association will be approached with a request for a publication written specifically for children. Someone on staff would write the publication or both author and design costs would be written into the proposal. Also, in order to encourage families to see more of the park and leave with a more integrated picture of Lowell, the interpretive staff will work with the Tsongas Industrial History Center (TIHC) staff to design a series of discovery, hands-on experiences for facilities throughout the park. The activities must be meaningful rather than simply gimmicks and will be closely tied to the park's themes. As visitors, particularly families, enter the park, they will be alerted to seek out these experiences in as many places as possible. As a corollary, a "reward" could be devised for those who participate in a certain number of the activities. This project, and the publication described above, might be combined.

- TIHC plans to develop new curriculum packets for school groups.

- Since the park interprets immigrant history and since many current residents of the greater Lowell area are recent immigrants, the park will evaluate which interpretive services should be provided in languages other than English. The forthcoming Visitor Survey may be helpful in this evaluation. Certainly increased liaison with community organizations will help to define the need. In addition, the park should develop a strategy to recruit staff with non-English language skills, especially from local ethnic communities.

- A consistent park identity, expressed by a carefully designed system of signs and wayside exhibits, will help visitors find their way through the city and into facilities that offer information and interpretation.

The Visitor Survey that is about to begin will help to define the nature of this sign system by uncovering current patterns of use.

- The existing wayside exhibit plan only addresses initial needs. Staff will develop a list of additional signs and group them into high, moderate, and low priority categories. Possible locations include: esplanade along the river (see "Merrimack River" below), Pawtucket Gatehouse, Francis Gatehouse, Northern & Western Canal walkway, ballpark and hockey arena, hydroelectric plant, Swamp Locks, exterior of Suffolk Mills, Little Canada, and Sheehy Park. Several of these exhibits could be funded and maintained by partners (see "Partners" below).

Partners:

- Costumed interpretation need not be provided entirely by NPS staff (see above, "Personal Services"). Partners include theater groups, universities, and the Lowell Office of Cultural Affairs. If demonstrations are provided and some sort of product produced, the cooperating association might be an additional partner.

- Several partners will be asked to fund wayside exhibits--State Park (esplanade), sports franchises (ballpark and arena), utility company (hydroelectric plant).

- Lowell Telecommunications Corporation (LTC) could help to integrate technology into interpretive programs, develop public service announcements, new video programs, etc.

- A park position responsible for coordinating partnerships might be necessary. This Community Relations Specialist might provide leadership for a new umbrella group, a cultural resource council, of Lowell partners.

- Other staff will develop an annual events plan and calendar (Mill Workers Day, Union Open House, Neighbors Night, etc.) as a way of targeting community groups. They will be assigned to work on constituency development with targeted community groups and perhaps with a Mill Workers Advisory Group. Such a group would encourage participation by retired mill workers, involve them in specific events (a Mill Workers Day, for example), and bring them into contact with current residents of the mills.

- Volunteers will be recruited by the park to relieve paid staff, who can then conduct research for or actually present short interpretive programs, serve as greeters for the Visitor Center, conduct historical research, present programs on special topics, conduct outreach programs, or present costumed interpretation.

- In order to take advantage of visitors' interest in the park's interpretive program, the park will establish a formal "Friends" group (Friends of Lowell National Historical Park and/or friends groups for particular sites, i.e., Friends of Boott Cotton Mills Museum and Friends of Market Mills/ Visitor Center, etc.). These Friends would explicitly support park programs as their sole goal. They could provide monetary support, help to recruit volunteers, and encourage visitation via a newsletter.

Arrival & Gateways to the Park
Mission Goals #2 & #5 and Long Term Goals #2 & #6

It is important to make a positive first impression and to put visitors at ease. From the time they enter the city, visitors need to feel that they made the right decision in selecting Lowell as a leisure destination.

The park actually has multiple gateways. In addition to the Visitor Center, visitors begin to plan their itinerary at the Sheraton Inn and to a lesser extent at Gallagher Terminal. Over 40,000 school children, teachers, and parents begin at Boott Mill with TIHC programs. When

completed and landscaped, both the ballpark and the arena will serve as potential gateways. Internet and the park's homepage will be used increasingly as an initial source of park information. And, if details can be arranged (see "Merrimack River" below), the Lowell Heritage State Park and other sites along the Merrimack River will become important gateways.

Personal Services:

- In order to provide a sense of welcome and security, staff will be stationed outside the Visitor Center and expected to rove the Visitor Center parking lot, Market Mills, and Mack Plaza. During times of heaviest visitation or when groups are expected, a ranger or volunteer, perhaps dressed in period clothing, will be positioned just outside the Visitor Center entrance.

- Gateway sites could be staffed during periods of heavy use. Also, ranger guided programs might begin from these gateway locations with a park resource or resources as the program's destination.

Non-personal Services:

- At each gateway, visitors need orientation to park resources and programs. A small orientation exhibit including maps and program literature seems appropriate.

- Directional signs on approaching highways and city streets should be re-evaluated and a plan devised to upgrade them as necessary. This could be particularly important given the development of the American Textile History Museum (ATHM) close to the park Visitor Center.

- When visitors enter the Visitor Center parking lot, they should experience a sense of arrival and the park has budgeted funds to upgrade this visitor entrance experience. When completed, it should be clear to visitors what they should do after parking their car. A site plan that includes landscaping, signs, and other media will:

1. Direct visitors into the Visitor Center;

2. Create a sense of anticipation and excitement. Entice visitors into and through the mill courtyard. This might be accomplished by creating obvious activity in the courtyard. There could be sound, music, voices, or a large icon that represents the Lowell themes and introduces visitors to the industrial nature of the Lowell story (the large wooden pulley wheel previously displayed in front of the Mack Building and currently undergoing restoration, for example);

3. Introduce visitors, via a brief, one or two sentence prologue, to the park's significance;

4. Establish the National Park Service's presence;

5. Orient visitors and establish a sense of security via a map of Lowell's downtown.

As part of this process, existing signs should be re-evaluated for effectiveness and, if necessary, replaced.

Since some visitors (the percentage to be determined by the Visitor Survey scheduled for 1997), come by foot to the Market Street entrance of the Visitor Center, they also need to understand that they have arrived. Because they walked through at least a part of the downtown, they may already be familiar with the waysides that will soon be in place and that will identify the Market Mills complex. But additional media are needed.

- The bulletin board now in use outside the Visitor Center entrance will be re-assessed. What purpose does it serve? How can it present the most attractive and positive early impression for the park? Re-evaluation should be folded into reconsideration of signs park-wide.

The contents of the park's homepage are being upgraded to include orientation. The park intends to install website video stations at major gateways (Boott, Visitor Center, and Sheraton). Additional materials might be added to provide potential visitors with useful information. In addition, basic information about the park's story could be included for those Internet users who only will have contact with the park via the World Wide Web.

Partners:

- As changes are implemented in the Visitor Center area, park staff will initiate informational contact with residents of the complex.

- Given the number of families with children in the Market Mills area, a children's museum or youth facility might be created in now empty space (the location previously used by the quilt museum, for example). Such a project would be led by a cooperator, possibly Lowell Telecommunication Corporation.

- Lowell Telecommunications Corporation will work with the park to develop websites and Internet programming.

The Visitor Center

HIGH ranking on the resource review worksheet
Mission Goal #1 and Long Term Goals #1, #2, & #6. See also see "Essential Visitor Experience"

The Visitor Center is located in Market Mills, significant as a representative of the large industrial mill complexes developed in Lowell

The visitor's experience inside the Visitor Center must be friendly and efficient. This is where an integrated story line commences. The following services will accomplish these goals:

Personal Services:

- A ranger or volunteer will be available to provide personal contact, either verbal or eye contact, as visitors enter the building.

- An interpreter will greet each group waiting to see the Visitor Center audio visual program, give a brief introduction to the show, then return to answer questions or provide directions at the end of the program.

Non-personal Services:

- When the Visitor Center first opened, the current exhibits were the primary method of tying park resources to the park themes. Now that the park is more fully developed and the park's messages are being refined, this exhibit space might be better used. For example, family audiences would undoubtedly appreciate interactive exhibits that encourage hands-on involvement. Some of the activities currently used at the Tsongas Industrial History Center could be adapted for the Visitor Center. A small performance space could be prepared that would allow live demonstrations, mini-dramas, musical performances, etc. and provide an additional reason to come to the Visitor Center.

- A new plan is needed for the Visitor Center exhibits. The services of the Visitor Center need to be immediately obvious to all who enter the building. It will be clear where to go to find rest rooms, orientation & information, exhibits, sales, and audio visuals. The NPS identity will also be obvious. In addition, the plan should concentrate on providing efficient orientation to both park and cooperator sites and programs (perhaps use the exhibits now in the last room on the Boott Mills' second floor). Exhibits should introduce the industrial city theme and the physical development of the city (perhaps with a model of the canal system and the 1876 model of Lowell now in Boott). Finally, the Visitor Center experience should be interactive with exhibits that engage and involve families and children.

- Given the number of options available to Lowell's visitors, the park's unigrid brochure should include historical text and images, a park and downtown map highlighting areas with shopping and restaurants, and a guide to canalways and wayside exhibits.

- Visitors also must be made aware of other publications available from the park and the park's partners. If practical, a self-service method of dispensing these materials should be provided.

- Since families are one of the park's targeted audiences (see "Visitor Profile"), a self-guided walking tour will be prepared to encourage parent-child interaction, perhaps with photo or video opportunities described along the tour route. Since discovery experiences with built-in interactivity will be designed for several other park sites (see "Park-wide Services"), visitors will be introduced to these opportunities and encouraged to look for them along the way.

- Sales are and will continue to be an important aspect of the Visitor Center operations. The park handbook is excellent; it will be displayed prominently so that all visitors know that it is available. Although the sales area will be obvious, it need not be positioned directly adjacent to the entrance. While NPS staff will continue to handle both sales and information, that does not rule out a flexible counter that expands and contracts according to demand and perhaps even separates sales from information during heaviest visitation. The Visitor Survey will be useful if it identifies when and how visitors use this sales area vs. the one located in Boott Mill. (For example, do visitors return to the Visitor Center to make their purchases as they leave the park and head for their car in the parking lot?)

- Visitors to the Visitor Center must also be introduced to the park's messages. In addition to the publications that they can carry with them, visitors will see an audio visual program that provides orientation to Lowell's physical setting AND historical content. For

adult audiences, the current slide show accomplishes the second task well but could use more information on present-day Lowell.

Partners:

- The cooperating association will be included in any discussions of redesigned sales space.

- Interpretive partners will be encouraged to provide promotional materials that fit into the redesign of the orientation area of the Visitor Center.

People Movers

Mission Goals #1, #2, #4 & #5 and Long Term Goals #1 & #6

Lowell's resources are scattered. Because visitors need to move from place to place, a variety of people-moving strategies will help visitors not only negotiate distances but also find the most important historical and interpretive sites.

I. Trolleys

Although the trolleys for many years have offered a popular mode of transportation, they have interpretive potential that needs to be exploited as well. By the end of their ride, visitors will be able to explain the historic role played by Lowell's trolley system.

- A trolley interpretive plan will describe how several changes will occur:

Personal Services:

A. Replace the flag person on the trolleys with an interpreter. This change will integrate interpretation into the trolley ride using the most flexible media available, provide transitions from site to site, help to integrate the story, and expand the NPS's presence.

B. To implement this change, both the trolley operator and the flag person will be trained in interpretation and will offer either formal or informal talks, depending upon the number of riders. A sound system would make presentations to larger groups more effective.

C. Costumed, first person, or dramatic vignettes (perhaps developed with a university or theater group partner) could supplement these talks and "introduce" riders to historical characters likely to be aboard in the past.

Non-personal Services:

D. Inside the trolleys, signs will alert visitors to park and partner programs, sales areas, and special events.

E. The existing site bulletin on the trolleys should be re-evaluated before reprinting. Does it place Lowell's historic transportation system into context?

Partners:

There are several opportunities to invite partners to participate in the operation of the trolleys.

- A university drama department could assist with or actually present the historical vignettes mentioned above.

- More radically, operation of the trolleys could be handled by a concessionaire or by the Lowell Regional Transit Authority (a feasibility study is currently considering that alternative). The status of interpretation if either change occurs, is unclear.

II. Signs

Non-personal Services:

- A consistent "sign" system will provide the visual cues that visitors need to find their way around the city and the park easily and without confusion. Visitors will know at a glance that they are going in the right direction, that they are approaching a historic or interpretive site, or that they have arrived at their destination.

III. Canalways
HIGH

The lower stretch of the Pawtucket Canalway is bordered by the walls of some of Lowell's oldest canals and the Western Canalway provided power to Suffolk, Tremont, and Lawrence mills.

Over the years, linear parks along Lowell's canals have been developed into a system of pleasant walks or "canalways." Painted street crossings encourage visitors to follow these paths.

Maintenance of the canalways is important to presentation of a positive image. (Mission Goals #2 & #3 and Long Term Goal # 2 & #3) Rafts of debris at important interpretive vantage points (Northern Canal by Suffolk Mill and at Pawtucket Gatehouse) need to be periodically removed.

Personal Services:

- Ranger-led walking tours along the canalways could easily explain the basics of canal construction and canal utilization.

Non-personal Services:

- Wayside exhibits are already planned for many of the resources along the canalway. Additional sites might be identified for future expansion of the park's wayside plan.

Partners:

- To assist with canalway maintenance, the park will initiate "adopt-a-canalway" and "adopt-a-gatehouse" programs.

- Staff will also organize periodic canal clean-up days and recruit local groups to participate.

IV. Boats

Boat tours are popular but expensive. In addition, they possess a certain interpretive ambiguity--unlike the trolleys, the canals moved water and sometimes cargo rather than people. In that respect they differed from other well-known canals. Rangers and volunteers need to actively make this distinction with visitors. While interpretation is an integral part of every boat tour, the boats themselves are simply a means to move visitors along a canal. Boats are not, for example, a good location for costumed interpretation.

- To develop the full potential of the boat tours, staff will produce an interpretive plan for using boats. This plan will describe how several changes will occur:

Personal Services:

A. Convert the first mates to the primary interpreters on the boats. This change will free FTE for other interpretive duties. Interpreters in costume and volunteers will provide on-site interpretation at gatehouses. Working together, they will use the trip to explain how the canals and locks were constructed and how they were used. They should have supplementary materials, laminated maps for example, to explain to visitors how the canals relate to the river and the whole citywide canal system.

B. Develop a strategy to connect gatehouse sites with the Lowell Heritage State Park boathouse on the river. (see "Merrimack River" below) Perhaps develop a shuttle from the river to Swamp Locks. After Swamp Locks is restored, study the feasibility of shuttle tours to the Industrial Canyon and Lower Locks. Expansion of the boat routes will reach new audiences and encourage them to visit the downtown sites. Expansion of boat trips along the river also will allow interpretation of the environmental impact of the canals, industrialization, and urbanization.

C. Boat tours will connect special programs and events on the river to other programming in the downtown.

Non-personal Services:

D. A wayside exhibit will be considered for the Bellegarde Boathouse.

Partners:

- When the boat tours expand to include the parks along the river, State Park staff will need to be involved in the planning.

Downtown Lowell

Mission Goals #1, #2, #3, #4, & #5 and Long Term Goals #1, #2, #3, & #6

Significance statements and rankings for many of Lowell's downtown structures can be found on the resource review worksheet.

In addition to the historic structures currently used by the NPS, downtown Lowell offers an extensively rehabilitated urban landscape that includes museums, public buildings (Old City Hall, City Hall, Lowell High School), parks & public art (Lucy Larcom Park, Boardinghouse Park, Kerouac Commemorative), St. Anne's Church, canals and canal infrastructure (the Industrial Canyon. Lower Locks, Moody St. Feeder Gatehouse), and commercial establishments (restaurants, the Bon Marche Building, the Farmer's Market, etc.).

The park has developed its own, relatively unique system of trolleys, landscaped walks, and boat trips to transport visitors from site to site (see "People Movers" above). This system provides a pleasant, popular and memorable experience for many visitors but does not move visitors through the downtown, commercial section of the city.

There are remedies that retain the best of the current transport system and that add other, attractive dimensions to the Lowell experience. Specific program ideas include:

Personal Services:

- Continue to develop, diversify, and increase thematic walking tours and accompanying brochures that include downtown sites (for example, an "Exploring Lowell" series and an "Industrial City" series for organized groups). Provide tours that focus on special

interests or targeted groups and publicize (tours could highlight ethnic foods or recreation, focus on particular ethnic groups or emphasize topics of interest to specific audiences like college students and parents).

- Encourage visitors to ride on the trolleys one way and walk the other. Use the Merrimack Street crossing/stop on the trolley route to promote downtown.

Non-personal Services:

- Develop a self-guided tour that includes Lowell's public art.

- Prepare a more complete tear-off map of the downtown and include historic photos and brief interpretive messages.

- Provide interesting experiences along a path from the Visitor Center to the Boott Mill. For example, develop interpretive stops with storefront exhibits, encourage merchants to offer incentives if visitors make a purchase, develop or identify photo opportunities (offer life-size figures that visitors can pose with), develop a sales item that includes a "treasure hunt" or hands-on activities for families and perhaps a reward when completed.

- If appropriate, add other downtown sites to the existing wayside exhibit plan.

- Reduce the total resources committed to walking tours by shortening the length of current programs. Instead, provide more frequent, shorter opportunities for interpretation. This change will increase visitor options, reduce the restrictions imposed by interpretive program schedules, and increase program attractiveness for family groups.

- Consider adding more directional signs.

Partners:

- Work with the Lowell Historic Board, downtown merchants, and the Convention & Visitors Bureau to prepare an interpretive plan to make the downtown more visitor friendly. Ideas include: self-guided walking tours, special guided tours, costumed interpretation ("A Walk with Reverend Edson," for example), plaques for historic structures, wayside exhibits that interpret historic streetscapes, and good directional signs. In order to increase foot traffic through the downtown, businesses will be asked to help develop and fund some of these options.

Boardinghouse/Working People Exhibit/Mogan Cultural Center
HIGH
Mission Goals #1, #3 & #4 and Long Term Goals #1, #2, #3, & #6

The boardinghouse adjacent to Boott Mill is a logical location for exhibits on Lowell's workers. The exterior is significant as one of the few extant examples of the tight row-house architectural form that originated in Lowell.

For the most part, the permanent exhibits on display are satisfactory. A few changes are recommended:

Personal Services:

- As currently designed, the exhibits in the boardinghouse require minimal personal service. However, since this site focuses on workers, it is an ideal place to introduce costumed interpretation. The actual programs could take any number of forms ranging from first person, to dramatic vignettes, to role-playing or storytelling. The goal is what is important, i.e., to personalize Lowell's mill workers and to help visitors understand life and culture in mill communities.

Non-personal Services:

- Produce a site bulletin (with floor plan) as a guide to visiting the exhibit and its complicated visitation route.

ea set aside for changing exhibits provides an
unity to build community involvement. As closer
h community groups are forged via park-
ted liaisons, topics for changing exhibits will
along with partnerships responsible for
g and installing exhibits.

signs here are subtle, perhaps too subtle.
e park develops a park-wide sign system, the
igns should be re-evaluated and changed if
.

he possibility of relocating the "American
tory" video to the Event Center at Boott or
cond floor if the modern exhibits in the last
noved. (see Boott Mill)

- This is another location for a hands-on, discovery activity.

Partners:

- Reconsider recommendation made by previous planners to operate this complex (including Boardinghouse Park) via a friends group or consortium of institutions under the auspices of the Preservation Commission.

- Evaluate the "American Workers Story" video as a sales item.

Boardinghouse Park
MEDIUM

Boardinghouse Park is the location of performances that celebrate themes of labor, ethnicity, and culture.

Personal Services:

- Close to the trolley line and Boott Mill, the park could be the setting for costumed interpretation. Possibilities include street drama, role-playing,

storytelling, and first person programs. Programs would focus on working class life and culture.

- The number and scope of special events sponsored or organized by the park has varied over the years. While these events can be very popular, providing an excellent way to nurture a positive image for Lowell and encourage local and regional visitation (see "Goals"), they are also time consuming. The park needs to redefine acceptable levels of staff involvement in special events and the outreach necessary to be successful. As part of this process, clear guidelines will be written to describe what types of special events will be appropriate and which partners might help with implementation. Based on preliminary discussions, ethnic and community festivals seem to link Lowell's long history of immigration to current cultural diversity. They could include music, food, and demonstration of skills and crafts. To succeed, these events should be conceived and planned via collaborative efforts with community groups and must address issues of cost and fund-raising potential.

- Since both the festivals and the concerts held in the park provide audiences that are sometimes quite large and often diverse, NPS staff will make every effort to provide a presence and, whenever possible, to offer interpretation. Programs that use costumed interpretation, perhaps via informal programs, storytelling, dramatic vignettes, etc., to link history to culture and leisure might be worthy experiments.

Non-personal Services:

- Boardinghouse Park needs to be identified as a part of the park, a goal to be considered when a park-wide sign system is developed.

- Ethnic exhibits, planned with community involvement (see above), could be promoted at these special events.

Partners:

- Park staff assigned to serve as liaisons wit groups will encourage and help groups to pl present ethnic and community festivals.

- The Folklife Center should be involved in pla co-sponsoring additional events.

Boott Cotton Mills Museum
HIGH
Mission Goals #1, #2, #3, #4, & #5 and Long Term #1, #2, #3, & #6

The history of Boott Cotton Mills parallels the story Lowell. They are the best surviving example of mill architecture in the city.

Most of the exhibits in the Boott Museum are relatively new and effective. The weave room is one of the most powerful exhibits in the NPS. It creates lasting and meaningful impressions of life in a mill that can only be enhanced by several suggestions listed below.

Personal Services:

- In order to heighten sensory impressions, an interpreter stationed in the weave room, perhaps in period clothing, will explain some of the actual jobs performed by mill workers. Talks will be presented during regularly scheduled machinery stoppages.

- The addition of a second interpreter on the second floor of the mill will provide personal contact and costumed interpretation as well as answer questions. This interpreter, perhaps a volunteer or former mill worker, will be prepared to use selected exhibits as props for short, even impromptu talks or demonstrations. The mill model, the display of fabrics, the basket of cotton, etc. can each be used to engage visitors in personal interaction.

Non-personal Services:

- While the noise of the weave room is very powerful, other senses will also be used. Summer heat and dusty

conditions could reinforce the difficult working conditions that prevailed in the mills.

- On the second floor of the mill, although the scope, density of display, and number of messages communicated by the exhibits can tire and overwhelm some visitors, these defects are not serious enough to require substantial rehabilitation.

- The exhibits, however, will be supplemented with discovery and hands-on activities planned in conjunction with TIHC staff.

- The last exhibit on the second floor, the exhibit that introduces visitors to other sites in Lowell, seems out of place. Serious consideration will be given to relocating these exhibits in the Visitor Center (see "Visitor Center").

- Before this exhibit is relocated, staff will develop an interpretive plan for the use of this space. Several alternatives already have been proposed. A. Exhibits on mill construction. This would allow visitors to look at mill architecture in new ways and provide an excellent place to begin mill courtyard tours. B. There needs to be a more direct interpretive link made between visitors and the people who worked in the mills. For example, visitors could receive information on an actual mill worker. As they look through the exhibits they could be directed to displays that help them to build a complete profile of the life of their character. Vacated exhibit space would be used to summarize this program and draw conclusions. It could, for example, include profiles of several characters, photos, quotations, descriptions of activities outside the mills, etc.

Boott Mill Courtyard
The courtyard is currently being landscaped. This more attractive and historic setting will provide new opportunities for interpretation.

Personal Services:

- The courtyard is a potential location f
  interpretation, demonstrations, and

Non-personal Services:

- Both the mill and the courtyard
  Visitors now have difficulty un
  available and then have troub
  facilities. These signs will be
  plan.

- Install a wayside exhibit tha
  appearance of the area, perhaps wi
  posing in
  a photo.

- Re-evaluate how other historic resources in the courtyard (the generator room/ art and access to the river/turbine pit) could be used on guided or self-guided tours.

Partners:

- Identify who owns the generator room and discuss the potential for interpretive use.

- Discuss interpretive programming in the vicinity of the Cafe.

- Work with partners who share space in the mill to devise improved signs.

Tsongas Industrial History Center (TIHC)
Mission Goals #1, #3, #4, & #5 and Long Term Goals #1, #5, & #6

The TIHC, located in Boott Mill, is a cooperative venture of the NPS and the College of Education, University of Massachusetts Lowell. It offers a series of well established on- and off-site tours and hands-on workshops for students, families, youth groups, and teachers. TIHC intends, however, to increase visitation, diversify its audiences, and develop new programs.

Personal Services:

- First identify additional youth group and family audiences and then develop outreach programs, special activities, tours, special events, and rewards that will encourage them to visit the park.

- Expand programming in the spring and fall and offer a new winter program that will attract and hold a stable audience.

- Review existing programs with school initiatives in mind. Make revisions as necessary.

- Re-establish summer teacher training institute.

- Design training experiences that will help NPS employees and other museum professionals achieve professional competencies and qualify for career advancement.

- Help to design discovery experiences at various locations throughout the park (see "Park-wide Services" above).

Boott & Massachusetts Mills Agents House
HIGH
Mission Goals #1 & #3 and Long Term Goals #1, #2, & #3

The Kirk Street agents' house is one of the best surviving examples of early corporate housing for mill managers.

This is the logical place to provide visitors with a glimpse into the lifestyle of the corporate owners and mill mangers.

Personal Services:

- Costumed interpreters will provide insights into the social rituals of the Victorian upper class.

Non-personal Services:

- An exhibit plan has already been developed for the Kirk Street house; it needs to be implemented to

ensure that the "Capital" storyline is adequately covered. In the interim, prepare a low-cost furnishings plan that would allow interpretation of the mill agents' lifestyle, particularly in comparison with the boardinghouse rooms nearby.

Industrial Canyon and Lower Locks

HIGH

Mission Goals #1, #2, #3, #4, & #5 and Long Term goals #1, #3, & #6

The Lower Locks are an extensive hydraulic complex at the site of one of the city's first factories, Middlesex Woolen Mill.

This area of the city could operate as an important gateway to park resources. Here, two very specific audiences, students at Middlesex Community College and guests at the Sheraton Inn (see "Arrival & Gateways"), come into direct contact with the canal system. Since both facilities are relatively recent construction, it is important to explain how the historic landscape looked.

Non-personal Services:

- A good map of downtown will inform potential visitors of the variety of sites that are nearby. Signs will direct potential visitors from both locations to park facilities.

- Park staff will work with employees at both the college and the hotel to provide effective materials about the park and park programming and develop distribution strategies. These potential audiences need to know that the park exists, that interesting things happen there, and that most facilities and programs are close by. Internet might be a particularly effective medium with the college audience. The hotel, on the other hand, might use an in-house video.

Suffolk Mills

HIGH

Mission Goals #1, #2, & #3 and Long Term Goals #1, #2, & #3

Suffolk Mills offer visitors an opportunity to see a 19th century water turbine actually provide power to textile machinery.

This is the obvious place to focus on power and its transmission through the mills. In addition, the heat, noise, smell of machinery, and humidity created by the working water-powered turbine provide a memorable interpretive experience for visitors.

Because these opportunities are so central to the core of the park's messages, strategies are needed to ensure that more visitors see Suffolk Mill and that more staff hours are allocated to keep the mill open. Increased visitation can be accomplished by providing more meaningful activities at the mill and by developing mechanisms to deliver visitors to the mill via boat, trolley, or walking tour.

Personal Services:

- Suffolk Mills must be staffed when open. Both safety and interpretation require that a ranger or volunteer be on hand. The goal should be to open the mill every day during the summer and extend current staffing during the shoulder seasons. In addition, the location of the mill argues for coordination of building hours with events in the nearby arena.

- Staff assigned to Suffolk Mills will perform three primary tasks--they will provide visitors with safety information; give information and orientation about both the park and the site, and conduct interpretive programs on power generation and transmission to mills.

Non-personal Services:

- Suffolk Mills' environment, particularly the humidity, should be an important part of a visitor's experience, demonstrating how working conditions were often unpleasant. Interpretive media should be careful not to stand in the way of the sensory messages that the

resource itself sends to visitors. Because the n
be unpleasant during certain times of the year,
length of time visitors are expected to remain n
need to be adjusted.

- As at several other park sites, visitors will find activities that involve self-discovery. A coordin effort undertaken with the staff of the Tsongas Industrial History Center should identify hands activities park-wide. Suffolk Mills activities sh encourage visitors to concentrate on their senses perhaps with working models to show how powe generated. One suggestion revolves around the i a power laboratory that demonstrates line shaft driven by water, steam, and electric power.

- In addition, the mill needs enhanced signs/simple exhibits that will allow visitors to garner basic information on their own. For example, signs/exhibits should explain the origin of the mill's name, how extant machinery worked and, in general, what the mill looked like when in operation. A floor plan would be helpful.

- Exterior signs should be coordinated with the park-wide sign plan and a wayside exhibit should be incorporated into the next phase of wayside planning.

- Accessibility is a critical issue at Suffolk Mills. Elevator access to the basement is needed. Until funding is found, a video is needed to provide programmatic access.

Merrimack River
HIGH
Mission Goals #1, #2, #3, & #4 and Long Term Goals #1 & #6

The river is an important physical feature that park visitors may not see. In addition, there are many visitors who use non-NPS parks and open space along the river for recreation but who never see the historic resources of the city.

Personal Services:

- See the discussion of boat tours under "People Movers" above.

- The river can be an effective classroom and additional programming for children, including the TIHC "River as a Classroom" program scheduled for implementation in 1997, will use the river as an interpretive resource. These new programs could stress the environmental impacts of the canals, industrialization, and urbanization. They could also discuss efforts to reverse or mitigate environmental degradation.

Non-personal Services:

- Wayside exhibits will be considered for the Bellegarde Boathouse and the public beach.

Partners:

- Programs that link the downtown and canal resources to the river will be developed with the cooperation, involvement, and financial investment of the Lowell Heritage State Park.

- Any discussions relating to a boat shuttle begin with the assumption that the operation will need to be self-supporting. Rather than expand NPS commitment to additional equipment and staffing, these shuttles might be operated as a concession.

- In addition, groups interested in the health of the watershed will be recruited as partners (Lowell Heritage State Park, Lowell Parks and Conservation Trust, and the Merrimack River Watershed Council, for example).

Swamp Locks
HIGH
Mission Goals #1, #2, #3 & #4 and Long Term Goals #1 & #2

Historically, the Swamp Locks provided a crit
between the upper and lower levels of Lowell's
canal network.

The Swamp Locks may take on new importance w
American Textile History Museum (ATHM) open
the street. They could become a link between ATH
the park.

Personal Services:

- These locks will continue to serve as the gateway to Pawtucket Canal. Walking tours that originate at t Visitor Center or in the downtown will include these locks as a way of explaining the canal system and the uses of water power. Boat tours will begin here, and as the corridor between the river parks and the downtown is developed, the locks will serve as a way station.

Non-personal Services:

- The site needs a wayside.

- Restoration of the site is increasingly important as the ATHM comes on line.

Partners:

- This site will be included in the adopt-a-gatehouse initiative.

- The park will explore operating the boat tours as a concession.

- In order to avoid visitor confusion and avoid competing signs and parking facilities, the park will enter into discussions that will clarify the relationship with ATHM.

Guard Locks and Francis Gate
HIGH
Mission Goals #1, #2 & #3 and Long Term Goals #1 & #2

As the name suggests, this complex served as an entryway to the canal system and provided flood protection for the city.

An actual on-site visit to surviving canal resources (as opposed to an audio visual explanation or exhibit description) can become a memorable part of the Lowell experience, if interpretation is properly focused on practical goals. The Guard Locks and Francis Gate, in particular, provide the opportunity to explain to visitors how the locks worked, how the canals were constructed and improved over the years, how they controlled water, and why this control was crucial to Lowell's economy (water power) and even well-being (flood control).

- To develop the interpretive potential of this area, staff will produce an interpretive plan for the Guard Locks. This plan will describe how several changes will occur:

Personal Services:

A. Rangers and volunteers on boat tours will focus on the interpretive messages best illustrated by canal resources (see above).

B. Initiate a program of costumed locktenders, characters personally familiar with the operation of the locks, canal construction, and the importance of water and canals to Lowell. Introduction of this additional staff assignment will require rethinking staffing for the boat tours (see "Boats").

Non-personal Services:

C. The next phase of the park's wayside plan will consider exhibits at each of the guard lock sites.

D. One of the more dramatic stories associated with the canals is the design and use of the Francis Gate. It virtually saved the city. While this story will be told on-site, it might also be explained via non-personal media at another location, in the Visitor Center, for example, or even off-site. A CD-ROM or other computer simulation

could be designed to involve visitors in flood control and allow them to try to "save the city."

Pawtucket Gatehouse & Dam
HIGH
Mission Goals #1, #2, #3, & 4 and Long Term Goals #1 & #6

This is one of the better locations to interpret "control" of the river, construction of the canal system, and environmental impact.

Personal Services:

- When visitation warrants, the gatehouse will be staffed by a uniformed or costumed interpreter or by a volunteer. They will work with the shuttle boat tours arriving from the boathouse and the Visitor Center.

Non-personal Services:

- Consider adding a wayside during the next phase of wayside planning.

Partners:

- Lowell Heritage State Park and perhaps the new tenant of the locktender's house should be involved in planning and implementation at this site.

Northern Canal & Northern Canal Island
HIGH

Because of work on the Northern Canal's wall and the Eldred Hydroelectric Plant, and because of safety considerations, access to this section of the canal system has been limited for a number of years. Plans are currently underway to make Northern Canal Island accessible to park visitors and Lowell residents via a pedestrian walkway across the canal and along the east side of the island. In addition, the City of Lowell is currently developing a River Walk which will extend along the Merrimack River from the Boott Mill to the area adjacent to the Eldred Field Hydroelectric Plant. This will bring a greater number of visitors to the area.

Once access is again available, an interpretive plan for Northern Canal, Northern Canal Island and the surrounding area will be written and Mission and Long Term Goals identified. This plan will consider how the canal will be used as both an interpretive and transportation corridor. A self-guided trail has already been planned and a brochure for the first phase, using streets instead of the "Great Wall," has been drafted (the Merrimack River Waterpower Trail).

- Produce an interpretive plan for the Northern Canal and Northern Canal Island explaining how several changes will be implemented:

Personal Services:

- A. Reinitiate the Northern Canal boat tour, possibly with a stop on Northern Canal Island when safe access is available.

- B. Incorporate the hydroelectric plant into interpretation; interpret the fish elevator.

Non-Personal Services:

- C. Develop a self-guided walking tour along the Northern Canal, including Northern Canal Island and the Eldred Hydroelectric Plant.

- D. Include wayside exhibits for the Northern Canal in the park's revised wayside exhibit plan.

The Mack Building
MEDIUM

The exterior of the Mack Building represents a commercial establishment of the late 19th century while the interior houses the "Waterpower Exhibit."

Originally operated by the State but closed because of budget cuts, the building will remain closed unless a partner steps forward with an operating plan. It will cost an estimated $40,000 to upgrade the HVAC system. A

State bond issue, if successful, could provide funding. When appropriate, the park should cooperate with state and city agencies to develop a reopening plan.

Personal Services:

- In the interim, park staff should continue planning with the City Parks Department to provide volunteers and high school students to open the exhibit at least during the summer.

Non-personal Services:

- The large window that fronts onto Shattuck Street will be used for temporary exhibits. Appropriate topics for these exhibits will be new or on-going projects or upcoming special events.

Locomotive/Rail Car
LOW

The locomotive & rail car adjacent to the Mack Building introduce visitors to Lowell's rail network and the role it played in moving both people and commodities about the city.

Personal Services:

- Recruit volunteers from the Boston & Maine Railroad Society to staff the rail car's interior exhibits and increase the number of hours the car is open.

- Have the staff aboard the trolleys include interpretation of the rail network into their presentations.

Non-personal Services:

- Install an original section of Boston & Lowell rails to increase the historical significance and interpretive value of the site. (The rails are owned by the City of Lowell and stored at the park.)

- Stabilize the rail car so an already designed exhibit can be installed.

Partners:

- See "Personal Services" above (recruit Boston & Maine Railroad Society volunteers).

Kerouac Commemorative & Public Art
LOW

Lowell's public art helps to present a positive image of the city and touches on themes and issues inherent in Lowell's heritage and culture.

Non-personal Services:

- The existing brochure on public art will be reviewed and updated if necessary.

- The art will be incorporated into the unigrid brochure for the park.

Partners:

- Special tours, offered by the Lowell Office of Cultural Affairs (LOCA), will periodically call attention to these varied expressions of Lowell's history and spirit. LOCA will also be approached about funding an interpretive guide to the city's public art (see brochure under "Non-personal Services" above)

- A friends group, coordinated by LOCA, could help to maintain both the art and the parks by sponsoring clean-up days.

Library & Collection Needs

The park library currently contains approximately 3500 books with particular strengths in the areas of local history, labor history, American social history, women's history, architectural history, and the history of technology. The museum collection contains a textile reference library of approximately 750 volumes on various aspects of cotton and wool production. Combined, these collections are critical to accomplishment of Mission Goals #1 & #3 and Long Term Goal #1. In addition, the library can play an important role in achieving Long Term Goal #4.

The park has consistently supported staffing the library with a professional librarian. With the advent of Ranger Careers, the library's role in research and training becomes increasingly important. The park needs to continue purchasing books on core topics to remain current with recent research. The research section of the LRIP (see below) will identify topics where collections development may be focused. In addition, the library collection and services should expand to include:

- Internet access for park staff. Part of the librarian's role should be to identify important web sites for research.

- Additional microfilm holdings, specifically microfilmed dissertations, archival collections, selected newspaper series, census records, etc.

- Other media including CD-ROMs, videotapes, etc.

Acquisitions of CD-ROMs and microfilm material should be made with due consideration given to the holdings of other nearby facilities like the University of Massachusetts Lowell Center for Lowell History, Pollard Library, and the American Textile History Museum to avoid duplicating readily available resources.

The museum collection is a valuable and largely untapped resource for interpretive programs. The park has a varied collection that supports the park's interpretive themes. The collection could be linked to interpretation in the following ways:

- The Locks & Canals Collection consists of drawings, files, notes, experiments, deeds, and photographs. This collection has been primarily used as a source for graphics, but there is tremendous potential to use the collection for science education, programs on the industrial city, the history of technology, water power, etc.

- The park holds one of the largest collections of letters written by mill operatives in the 19th century. These letters can be mined for information on cultural life in Lowell in the 19th century and can form the basis for a series of life histories that could be used in interpretive programs (see "Boott Mill").

- The park has a small, but important collection of early business records related mostly to the Merrimack Manufacturing and Boott Cotton mills. These records include receipts, pay ledgers, contracts, etc. The potential is there to develop the management story of the mills, to look at wage rates over time and relative to occupation, etc.

- The photographs and artifacts in the collection can be used for small case exhibits on topics like: Father John's Medicine, Production during World War II, Tools as Art, Life Histories, Recreation, Textile Education, etc. These temporary exhibits can develop ideas to be used in larger exhibits, provide training in exhibit production and development, and vary interpretive offerings for visitors.

Research Needs

Several research projects were identified during th planning process that would make important contributions to the interpretive programs recomm in this plan. Others relate specifically to exhibits] for the park. Given the number of research project might be undertaken, priorities will be establishec GPRA Step 6, preparation of Annual Goals.

The Industrial City theme should be expanded to ir social life outside the mills. To support this initia research is needed in the following areas:

- The Material World of 19th Century Lowell
  The Jefferson Bancroft collection at the Center for Lowell History is a particularly rich collection of receipts, sheriff's sale auction records, etc. It provides an opportunity to give a better sense of the world of the "mill girls." The collection includes information on the kinds of shops that were in Lowell and the kinds of goods that these shops carried.

- Recreation
  For the summer of 1998, the park is planning a large scale exhibit on recreation. What did Lowellians do outside of work? Sports, amusement parks, literary circles, theaters, dance halls, and bars are all potential areas of consideration.

- Building Histories
  Using research already collected in the Cultural Resources Inventory and *Lowell Then and Now* as a starting point, conduct photo and archival research on downtown structures. This research could be incorporated into interpretive tours and may be a source for storefront exhibits (see "Downtown Lowell").

- Housing
  What was housing like for workers in the late 19th and early 20th centuries? Using resources like the 1875 consumption study from the Massachusetts Board of

Labor Statistics, community photographs, oral histories, and Lowell Housing Department photographs, develop a picture of housing for immigrants that complements the materials collected on mill girls.

- Stores and Shops in Lowell
  Mine local resources on businesses from Lowell's past. This information could be used in expanded interpretation of the downtown as well as in ranger-delivered programs (see "Downtown Lowell").

The Capital theme currently is underrepresented in the park's interpretive program. This deficiency will be addressed when the exhibit planned for Kirk Street Agents House is installed. In the interim, research in the following areas could bolster interpretation:

- The Social Lives of Agents and Their Families
  Investigation of records related to the Masons, Middlesex Mechanics Association, and school department could help to provide a more complete image of agents and their families. How was corporate power exerted outside the mills? How did agents involve themselves in the operation of the city government? What social and religious organizations did agents and their families join?

- John Aiken and Alexander Wright
  Recently discovered archival materials provide an excellent opportunity to develop fuller pictures of these agents.

- Lives of Domestic Workers
  The agents' house was occupied by both workers and family members. Using city documents and other materials, learn what we can about the lives of domestics in Lowell.

Additional Subjects

- Child Labor

Research on child labor in Lowell to support an exhibit in the Boott Gallery.

- Mill Operative Letters Project
  Seek out copies of letters from historical societies and museums in New England to build a central repository for mill operative letters. Secure copy, use, and distribution privileges for these letters. These materials complement materials already in the park collection.

- Locks & Canals Collection
  Conduct a systematic analysis of the contents of manuscript notebooks in the park's collection.

- Women who were not mill workers
  Study materials on Martha Fisher Anderson (diaries--1846-1905 at the Massachusetts Historical Society), Caroline F. Appleton letters (copies on file at the park), Mary Aiken letters (University of Michigan and Library of Congress), Susan Wetherbee diary (the park) to draw comparisons with the lives of mill operatives.

- Little Canada
  Conduct photographic research in the community to compile material for an exhibit on Little Canada.

- Visitor Survey
  In addition to historical research, the park is about to undertake a survey of visitors. Among the questions that the survey should attempt to answer are questions about how visitors currently see the park, where they go, how they get there, and how fees affect visitation.

Staffing Needs & Costs

Implementation Plan

An introductory reminder is in order. Unlike the Implementation Plan format usually included in a LRIP, this plan will not place projects in priority order or assign projects to a fiscal year. Instead, those priorities will be set during the preparation of the Annual Performance Plan, GPRA Step 6.

Project	Who
Create a position to coordinate partnerships	Superintendent
Plan/produce programs for park's 20th anniversary	Spec. Evts, E&VS
Develop new promotional campaign and tour packages	PIO, E&VS
Identify target audiences via marketing plan	PIO
Improve community outreach programming	E&VS
Develop exhibits with community as outreach	E&VS
Develop annual events plan	Spec. Evts, Maint., E&VS
Open dialogue with ATHM	Supt, E&VS
Design visitor survey questions	E&VS
Evaluate & implement results of visitor survey	E&VS
Prepare Publications Plan	PIO, E&VS
Design unigrid brochure	PIO, E&VS
Implement museum store Income Dev. Plan	E&VS
Evaluate "Am Workers Story" video for sales	E&VS
Develop CD-ROMS, videos, etc. for sales	E&VS, Comp. Serv.
Produce arrival site plan (VC, etc.)	Dep. Supt, E&VS
Produce park-wide sign plan	Supt, E&VS, Maint
Produce expanded wayside exhibit plan	Canalway, E&VS
Plan/install gateway media, etc.	E&VS, PIO
Develop costumed interpretation plan	E& VS
Develop interpretive plan for Boott	E&VS
Develop interpretive plan for trolleys	E&VS
Develop interpretive plan for boat tours	E&VS, PIO
Develop interpretive plan for VC	E&VS
Develop downtown interpretive plan	E&VS
Develop interpretive plan for restored Boott courtyd	E&VS
Develop interpretive plan for Suffolk Mills	E&VS
Develop personal interpretive plan for canal sites	E&VS, Maint.
Develop interpretive plan for Northern Canal	
Develop site bulletin for Working People Exhibit	E&VS
Update self-guided tour of public art	PIO
Create non-English materials	E&VS
Recruit interpreters with diverse language skills	E&VS
Implement Boott discovery kits	E&VS
Expand TIHC programs	TIHC, Educ
Re-evaluate summer teacher training institute	E&VS

Project	Who
Create kid/parent publication/tour & discovery exp.	E&VS, TIHC
Expand volunteer program	E&VS
Organize canal clean-up days	E&VS, Maint.
Initiate adopt-a-canal, adopt-a-gatehouse program	E&VS, Maint.
Plan and develop Friends group	Supt, E&VS
— Complete rail car rehab/exhibit	Maint, E&VS
Cooperative agreement with Boston & Maine HS	E&VS
Develop plan to reopen Mack Building	Maint., E&VS
— Get commitment for exhibit in Kirk St. Agents' House	E&VS
Develop temp. furnishings plan for Agents House	E&VS
Seek funding to implement Agents' house plans	E&VS
Integrate museum collection into interp.	E&VS
Design training for professional competencies	E&VS
Create AV specialist position	E&VS
Develop park-wide AV plan	E&VS, PIO
— Produce video of Suffolk Mills basement	E&VS
Develop World Wide Web offerings	PIO, E&VS
Provide Internet access for conducting research	E&VS, Comp. Spec.
Add to microfilm collection	Librarian
Conduct research for programs and exhibits	E&VS

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Although front-line staff members of the Division of Education and Visitor Services could not attend the planning workshops, drafts were circulated and their comments and suggestions have been incorporated into this plan.

Part 3

Appendices

I. Eight Steps of GPRA

Although development of the GPRA process continues to evolve, the need to coordinate with other planning dictated that the January 1997, 3rd Edition of the Northeast Field Area's "Guide to GPRA" be used.

Step 1: Review Key Documents

Step 2: Establish Mission

Step 3: Develop Mission Goals

Step 4: Develop Long-Term Goals

Step 5: Analyze Inputs & Resources

Step 6: Set Annual Goals

Define Activities to Meet Annual Goals
Allocate Inputs to Activities

Step 7: Implement Annual Work Plan

Step 8: Prepare Annual Performance Report

II. GPRA and CIP Comparison

There is considerable overlap between the steps recommended for conformance to GPRA and the contents of a Comprehensive Interpretive Plan (CIP) as described in NPS-6, Chapter III, Interpretation and Visitor Services Guideline. This chart illustrates that overlap and identifies only a few places where the more specific needs of the interpretive plan have no direct counterpart in the GPRA process. In most cases, the overlap in the two planning processes does not even require reordering of content presentation.

GPRA Step	CIP Contents
Step 1 Review Key Documents	Long Range Interpretive Plan (LRIP), Purpose & Significance
Step 2 Establish Mission	LRIP, Purpose & Significance
NA	LRIP, Themes
Step 3 Develop Mission Goals	LRIP, Goals & Issues and Influences
Step 4 Develop Long Term Goals	LRIP, Visitor Experience & Visitor Profile
Step 5 Analyze Inputs & Resources	LRIP, Existing Facilities & Staffing Needs & Costs & Library Needs Research Needs
NA	LRIP, Interpretive Program Description
Step 6 Set Annual Goals	LRIP, Implementation Plan & Annual Interpretive Plan (AIP), Summary; Analysis; Management Issues; Work Plan
Step 7 Implement Work Plan	AIP, New Individual Program Plans
Step 8 Prepare Annual Performance Review	AIP, Status of Implementation Plan

III. National Park Service Interim Goals

GPRA expects that all goals developed by individual parks will emerge from the Mission and Long Term Goals developed for the NPS as an agency. This plan is based upon interim goals circulated in March 1997. They read as follows:

Goal Category I. Preserve Park Resources

Mission Goal Ia: *Natural and cultural resources and associated values are protected, restored and maintained in good condition and managed within their broader ecosystem and cultural context.*

Long Term Goals: **By September 30, 2002**

1. 5% of targeted disturbed park lands, as of 1997, are restored, and 5% of priority targeted disturbances are contained.

2. 25% of the 1997 identified park populations of federally listed threatened and endangered species with critical habitat on park lands or requiring NPS recovery actions have an improved status, and an additional 25% have stable populations.

3. Air quality in at least 50% of Class I park areas improves or does not degrade from 1997 baseline conditions.

4. Reduce by 10%, from 1997 levels, the number of days park recreational waters fail to meet state water quality standards for swimming.

5. 50% of the historic structures on the 1998 List of Classified Structures are in good condition.

6. 68% of preservation and protection conditions in park museum collections meet professional standards.

7. 50% of the cultural landscapes on the Cultural Landscapes Inventory are in good condition.

8. 40% of the recorded archeological sites are in good condition.

Mission Goal Ib: *The National Park Service contributes to knowledge about natural and cultural resources and associated values; management decisions about resources and visitors are based on adequate scholarly and scientific information.*

Long Term Goals: **By September 30, 2002**

1. Acquire or develop 434 of the 2,287 (19%) outstanding data sets identified in 1997 of basic natural resource inventories for all parks.

2. the 1997 baseline inventory and evaluation of each category of cultural resource is increased by a minimum of 5%.

Goal Category II: Provide for the Public Enjoyment and Visitor Experience of Parks

Mission Goal IIa.: *Visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities.*

Long Term Goals: **By September 30, 2002**

1. 80% of park visitors are satisfied with appropriate park facilities, services, and recreational opportunities.

2. Reduce visitor safety incidents by 10% from 1997 levels.

Mission Goal IIb: *Park visitors and the general public understand and appreciate the preservation of parks and their resources for this and future generations.*

Long Term Goals: **By September 30, 2002**

1. 60% of park visitors understand and appreciate the significance of the park they are visiting.

Goal Category III: Strengthen and Preserve Natural and Cultural Resources and Enhance Recreational Opportunities Managed by Partners

Mission Goal IIIa: *Natural and cultural resources are conserved through formal partnership programs.*

Long Term Goals: **By September 30, 2002**

1. Increase by 15%; over 1997 levels, the number of significant historic and archeological properties protected nationwide through federal programs or official designation at local, state, tribal, or national levels.

2. Increase by 20%, over 1997 levels, the number of significant historic and archeological properties protected nationwide through local, state, or tribal statutory, regulatory, or financial incentives or by the private sector.

3. Achieve a 10% increase in user satisfaction, over 1997 levels, with the usefulness of technical assistance provided for the protection of historic and archeological properties.

Mission Goal IIIb: *Through partnerships with state and local agencies and nonprofit organizations, a nationwide system of parks, open space, rivers, and trails provides educational, recreational, and conservation benefits for the American people.*

Long Term Goals: **By September 30, 2002**

1. 1,100 additional miles of trails, 1,200 additional miles of protected river corridors, and 35,000 additional acres of parks and open space, from 1997 totals, are conserved with NPS partnership assistance.

2. 80% of communities served are satisfied with NPS partnership assistance in providing recreation and conservation benefits on lands and waters.

Mission Goal IIIc: *Assisted through federal funds and programs, the protection of recreation opportunities is achieved through formal mechanisms to ensure continued access for public recreation use.*

Long Term Goals: **By September 30, 2002**

1. The 40,000 recreational properties, as of 1997, assisted by the Land and Water Conservation Fund, Urban Park and Recreation Recovery Act, and Federal Lands to Parks programs are protected and remain available for public recreation.

Goal Category IV: Ensure Organizational Effectiveness

Mission Goal IVa: *The National Park Service uses current management practices, systems, and technologies to accomplish its mission.*

Long Term Goals: **By September 30, 2002**

1. 75% of the major NPS data systems are integrated.

2. 100% of employees within the 16 key occupational groups have essential competency needs identified for their positions.

3. 100% of employee performance standards will be linked to appropriate strategic and annual performance goals.

4. The population of annual new hires reflects the overall diversity of the Civilian Labor Force.

5. 35% of employee housing units, classified as being in "poor" or "fair" condition in 1997, have been removed, replaced, or upgraded to "good" condition.

6. Reduce by 50%, from the 1996 level, the NPS employee lost time injury rate, and reduce the cost of new workers' compensation costs by 50% based on the 1996 costs.

7. 90% of NPS park construction projects identified and funded by September 30, 1998, are completed within established costs and schedules.

8. 25% of all non-Federal lands within units of the National Park System that have been identified for protection, by September 30, 1996, have been acquired either in fee simple or less than fee.

Mission Goal IVb: *The National Park Service increases its managerial capabilities through initiatives and support from other agencies, organizations, and individuals.*

Long Term Goals: **By September 30, 2002**

1. Increase by 10%, over the 1997 level, the number of volunteer hours.

2. Increase by 10%, over 1997 levels, the dollar amount of donations and grants.

3. Increase the average return for park concession contracts to at least 8% of gross concessioner revenue.

4. Increase by 20%, over the 1997 level, the amount of receipts from park entrance, recreation, and other fees.

IV. Theme Discussion

The Thematic Outline presented in the body of the LRIP is more fully discussed here. The "Overarching Theme" for Lowell National Historical Park is followed by five principle topics. For each topic there is a theme statement followed by a brief explanation and then several subtopics. For each subtopic there is an explanation followed by a series of important questions designed to guide interpreters in developing their programs. To formulate answers to these questions, interpreters should consult the park bibliography, the park library, and the vertical files in staff offices.

Overarching Theme

Lowell is America's earliest planned industrial city, where new forms of technology, power generation, finance, labor, and industrial organization were combined on a scale that portended today's industrialized and urbanized society.

Lowell is not, as is sometimes claimed, the birthplace of the Industrial Revolution in America. Most of the developments associated with this phenomenon had their origins elsewhere. But it was in Lowell that these developments converged in a way that made them revolutionary.

The importance of Lowell extends well beyond the story of its early years as pioneer and symbol of a new era. The Lowell experience offers singular opportunities to interpret the full socioeconomic, technological, and environmental implications of the industrial revolution, from Lowell's bright beginnings through decades of decline to the present revitalization.

Key Topics, Principle & Secondary Themes

1. Labor: Workers and Their Organizations

The shift from craft production in the home and in small workshops to industrial production in factories revolutionized social relations in America and gave rise to an enduring working class.

Growing numbers of men and women in the early 19th century left their rural communities and entered factory work where they became wage earners employed in specialized tasks in a large mass production system. Female operatives who dominated the ante-bellum work force in Lowell encountered strict discipline from male managers at the factory and paternalistic control from corporations at home. Mill managers set production schedules and closely supervised workers. Time clocks and the pace of machinery dictated the rhythm of life in Lowell.

Nonetheless, despite arduous, often dangerous working conditions, many female operatives enjoyed the independence made possible by their personal income and their separation from the male-led agrarian families in which many were raised.

Together they toiled in mills and socialized after hours. Though organized trade unions were extremely weak in Lowell throughout the 19th century, female operatives formed mutual aid societies that helped workers during strikes and campaigned for shorter hours, higher wages, and better working conditions in the mills.

The composition of the work force began to change by the 1840s as more men and children, increasingly of Irish ethnicity, entered the Lowell mills. Workers' organizations, ranging from ethnically oriented social clubs to wings of established political parties, became more prominent. Not until the late 1930s, however, did trade unions for mass production workers begin to take hold in Lowell.

A. Female Workers: With the establishment of the cotton textile industry in Lowell in the 1820s, large numbers of New England women from agrarian-based household economies went to work at the rapidly growing mills and, for the first time in the nation's history, formed an industrial work force dominated by female operatives.

What were the social and cultural backgrounds of these Yankee farm girls? What attracted them to the factory? What kinds of skills did they possess? What conditions did they encounter in the mills and how did they respond? How did mill work affect their health? What kinds of activities did they engage in outside the factory? What was the relationship between Yankee farm girls and female Irish workers? What were the marriage, fertility, and mortality rates for Yankee and Irish workers? What did they do after marriage and/or having children? What was life like in the boardinghouses? Who were the boardinghouse keepers? What was their relationship with the corporations? How and why did female operatives organize and campaign for factory reform? What were the results of their reform activities?

B. Child Labor: Although Lowell's textile companies employed primarily young female workers in the mills throughout the ante-bellum era, girls and boys under the age of 15 constituted about 5% of the work force. This reliance on child labor continued through the early 20th century when state and federal labor laws curtailed the employment of children under 16 years of age.

Which mills employed child labor? Who were the children employed in the mills and what kinds of families did they come from? What kinds of jobs did children perform in the mills? What were the conditions, wage rates, and hours of employment for child workers? How did conditions for children in Lowell's factories differ from those in other American textile factories? What were the family and socioeconomic backgrounds of the children employed in Lowell's mills? How did the family and socioeconomic characteristics change over time? What was their experience in Lowell's schools? How did occupations differ for girls and boys? How did the numbers of child textile workers change through the 19th and 20th centuries? How did Americans view childhood in the 19th century? Was factory work compatible with notions of childhood? Why was child labor in Lowell's textile mills substantially eliminated in the early 20th century?

C. Male Workers: Although the number of female textile mill workers in Lowell greatly exceeded that of males, throughout the ante-bellum years the number of male operatives grew steadily and by 1860 men accounted for 1/4 of the city's textile work force. In addition, males dominated such occupations as common laborer, machinist, and mule spinner.
What kinds of jobs did male workers have in the mills? How many males were employed in the mills? How and why were jobs oriented along gender lines? How did men and women work together in the mills? How did pay rates compare for men and women? What kinds of social and fraternal organizations did male workers join?

D. Immigrant Workers: The 1840s witnessed a rapid increase in Lowell's immigrant work force. By 1850 female Irish textile operatives constituted a sizable part of the city's mill workers (30% at one textile company) and by 1900 the work force included French Canadians, Greeks, Poles, Portuguese, and many other nationalities.

When did Irish immigrants arrive in Lowell's mills? How many immigrants worked in the mills? What kinds of skills did they bring? How did their native culture shape the conditions of their employment? How was work segmented along ethnic lines? What nationalities composed "newer" immigrant groups? When did they arrive and what kinds of jobs did they assume? When did they arrive and what kinds of jobs did they fill in the mills? Why did immigrants leave their homelands and what were their hopes and aspirations upon settling in Lowell? How did the values of industrial capitalism inculcated into immigrant groups in the mills shape their understanding of American life?

E. Workers' Response to Factory Work: As they sought to protect the value of their working lives and maintain an element of craft in their work, Lowell's workers dealt with lifetimes in the mills, increasing automation, and declining wages and conditions in a variety of ways. Most dramatically, organized actions by women workers (1834 & 1836 turn-outs or strikes and the 1840s Ten-hour Movement) did not achieve their demands. Eventually, however, 20th century worker actions (1912 strike and the 1940-41 union organization drives at the Merrimack and Boott Mills) succeeded, embracing the familiar issues of worker control, higher wages, shorter working days, and factory conditions.

What kinds of workers' organizations existed prior to unionization in the early 1940s? What were the major issues of worker protest in the ante-bellum years? Without the right to collective bargain, how did workers negotiate or resist managerial initiatives that operatives deemed unfavorable to their interests? What did workers do to gain political strength in support of their interests? Why did union organizing fail until the late 1930s? When were the major strikes in Lowell and what were their results?

2. Technology: Engineering the Industrial System

Innovations in textile, transportation, and waterpower technology enabled Lowell to become the premier industrial city of the first half of the 19th century and a leading textile manufacturing center until the 1920s.

The early American textile industry relied heavily on British techniques in manufacturing, transportation, and water power. Skilled native-born Yankees and British mechanics who immigrated to the United States aided the trans-Atlantic transfer of textile technology from Britain to America and found employment in newly established cotton manufactories such as Pawtucket, RI, Waltham and Lowell, MA. This mechanics class, forerunners of the engineering profession, used largely empirical "rule-of-thumb" methods to design and build canals, factories, textile machinery, railroads, and water power systems. James B. Francis' experiments on water turbine technology in Lowell combined empirical and scientific knowledge, leading to important innovations in the American water turbine. In the realm of production technology, machinists improved existing manufacturing equipment or developed new machines that increased the output of textile goods, raised profits of mill owners, and profoundly altered the working lives of mill operatives.

A. Bale-to-Bolt: In the integrated textile mills of the Waltham-Lowell System, all steps of the cotton textile process were combined for the first time in the U.S. under a single roof to turn raw cotton into finished cloth. The development of an efficient American power loom was an important factor in the creation of these first integrated textile mills in the world. Talented American mechanics, forerunners of college-trained, professional engineers, produced numerous innovations in textile machinery that improved efficiency and reduced labor.

Where did the idea originate for the development of an integrated cotton textile mill? Who were the talented mechanics at Lowell and what were their educational and social backgrounds? What technologies were developed to allow large-scale industrial production of textiles? How did textile machinery operate? What was the layout of the machinery and how did layout vary from mill to mill? What were the major economic, technical, and social considerations of managers in the layout of the machinery and the use of new production technologies? How did workers interact with the machinery? Under what conditions did invention and innovation flourish and decline in Lowell? How did the mechanics and engineers organize machines and workers? To what extent did the Lowell system shape the organization and production of other manufacturing goods? How did changes in technology and organization of production affect workers' perception of work, their role in industrial enterprise, their job satisfaction, and their perceptions of others in the workplace?

B. The American Water Turbine: Lowell engineers, most prominently Uriah Boyden and James B. Francis, took the French-invented turbines of the early 19th century and made major design improvements that were crucial in maintaining Lowell's prominence as a manufacturing center.

How did the turbine work? To what extent was the improvement of the water turbine the result of empirical, "rule-of-thumb" know-how or science-based

knowledge? What changes were made to the turbine to improve efficiency? How effective were these changes? What kind of turbine experiments were conducted, where were they conducted, and who supported this experimentation? Why did turbine experimentation and improvement leave Lowell only to be taken up in other cities?

C. Technological Laboratory: Lowell helped 19th century American industry develop by serving as a technological laboratory for the improvement of textile and waterpower machinery. Many of these innovations spread throughout New England and the South, and ironically enabled other regions to compete with and even out produce Lowell.

What were the major technological innovations produced in Lowell? How did they enable Lowell to achieve such economic success? What were the relationships among industry, schools, and research and development in Lowell? Who were the innovators in Lowell's mills and machine shops? How widely diffused were these innovations from Lowell?

D. Building the Mills: Improvements in construction methods and materials which reduced the risk of fire, allowed Lowell's mills to evolve architecturally as integrated masses of brick, timber, and stone situated on waterpower islands between canals and rivers. The advent of steam power in the second half of the 19th century allowed mills to be located away from the primary water elevation drops.

Who were the architects, millwrights, and builders of the mills? How did they plan the mills to fit the building sites and take advantage of the waterpower system? Where did the building materials come from? What architectural advantage did the mills of the South have, especially in the 20th century?

3. Capital: Owners & Managers

The successful organization and management of the mills and the City of Lowell became a model for other industrializing cities in the nation and helped the Boston Associates control one-fifth of America's cotton production by 1850.

In the 1810s and 1820s, a group of Boston merchants led by Francis Cabot Lowell, Nathan Appleton, and Patrick Tracy Jackson used their considerable capital to organize corporations and invest in textile manufacturing in Waltham and, following the success of this venture, in East Chelmsford. Renamed Lowell in 1826, the new city used the falls of the Merrimack River for water power to operate looms and other mill machinery. Lowell produced large amounts of cloth and garnered huge profits for the mill owners as the city became a showplace for American industrialization.

In the early decades of Lowell, the textile corporations managed a mostly paternalistic community of employees who worked and lived "on the corporation." As the city grew, the Lowell corporations maintained their leadership in the textile industry. But the massive lay-off of workers by the mills during the Civil War dramatized the end of this paternalistic relationship. At the same time, growing

competition from other textile centers in the United States confronted Lowell's mill managers who responded by mechanizing production and altering terms of employment. Ultimately, owners chose not to reinvest in Lowell's mills, and in the late 19th and early 20 centuries moved their capital to the South and to other regions of the country.

A. Market Revolution: Even before construction of the mills, Lowell experienced a market revolution that transformed the local and regional economy.

Prior to the establishment of Lowell's cotton mills, farmland dominated the region around East Chelmsford. Throughout the 18th century household economies and farms produced primarily for family needs and local markets. Despite the introduction of cash, bartering persisted in many communities. By 1800, however, capitalism was transforming the countryside. Boston merchants invested their capital in canals and roads, linking small producers of agricultural goods and businesses engaged in extracting raw materials (quarry stone and lumber, for example) to regional markets. Grist mills dotted the countryside as millers bought grain from farmers and sold flour to merchants as far away as Boston. Commercial activity increasingly centered around contracts and the cash nexus. By the time the Boston Associates built the mills on the Merrimack, much of rural Massachusetts was market oriented and technologically adept.

What kinds of commercial enterprises existed in the region around East Chelmsford in the 18th century? To what extent were native peoples involved in the commercial activities of early European settlers? What were the household economies of these settlers how did production for the family, for local markets, for regional markets change by the late 18th century? What was the demand in farm households for consumer goods? When did the cash economy take hold? What kinds of technologies were employed on the farm and in the small grist mills, saw mills, and woolen mills? What kinds of internal improvements were made prior to the 1820s and who sponsored them? Why was there interest in industrializing?

B. Production for Profit: During Lowell's first several decades, the formation of new companies and construction of large factories expanded the city's production of textile goods and resulted in healthy profits seldom re-invested directly in Lowell.

Despite fluctuations in the market, profits remained high. The Boston-based owners of the textile corporations engaged in various philanthropic activities, building schools, hospitals, and libraries throughout Boston and New England, but rarely in Lowell. By the late-19th century, mill owners invested even less capital in Lowell, using their profits instead to augment their cotton manufacturing ventures in the South. The once-profitable mills in Lowell declined precipitously after the 1920s and in the 1950s the industry all but disappeared.

Why was Lowell chosen for such a large-scale experiment in integrated textile production? Who was financially involved in the textile corporations and where did investors obtain their capital? What factors contributed to the success of the Lowell system in the ante-bellum years? What forces led to the decline of industry in Lowell between 1920 and 1970? What economic changes occurred in Lowell over

the last 25 years and what is Lowell's economic future? How have mill buildings been put to new uses? How is Lowell's recent history relevant today?

C. Managing the Mills: Although usually not part of the ownership of the mills, mill agents and their families played an important role in the social, cultural, and political spheres of Lowell through most of the 19th century.

In the first half of the 19th century, mill owners in Boston recruited trustworthy relatives, lawyers, and Whig party politicians to serve as mill agents, representatives of their corporations, and managers of the day-to-day operations of the Lowell mills. As the textile industry expanded and competition intensified, however, the owners of the Lowell mills began to hire "professional mill agents" with the technical expertise required to make the mills more efficient and to devise new products for changing markets.

What were the social, cultural, and political worlds of the mill agents and their families? How did they and their companies influence local politics and city government? How did the relationship between the mill agents and the company treasurer (similar to the CEO of today's corporation) evolve over time?

D. The Mills Move South: The failure of the textile corporations to reinvest profits sufficiently in upgrading the textile technology and physical plant of their Lowell mills eventually resulted in the closing and/or moving of the major Lowell mills.

Even before the Great Depression, Lowell's textile industry was in serious decline. Six of its ten major mills closed, moved, or sold their operations between 1926-28. Only three of the original mills survived intact after World War II. Industrial demolition and urban renewal claimed three mill complexes and almost all the mill worker boardinghouses--a significant loss to the historic 19th century industrial landscape. Left behind in Lowell are most of the rest of the mills--in various states or renovation or ruin--and thousands of mill worker families, mostly the children and grandchildren of the workers who watched as their mills closed or succumbed to demolition.

Why did the mills move South? Why was capital not reinvested in the Lowell mills? To what extent was the fact that most owners did not live in Lowell responsible for this capital flight? How did the mill workers and the people of Lowell who depended on the textile industry respond to the mill closings?

4. Transforming Nature: Watershed & Waterpower

The textile corporations of Lowell established a significant legal and ecological precedent in gaining ownership of the water rights of the Merrimack River watershed, making water a commodity to be bought, manipulated, and sold, and allowing transformation of the river's ecosystem.

The development of the textile industry in Lowell dramatically altered the ecology of the Merrimack River watershed. The river was dammed, canals were constructed,

forests were cut, and roads, bridges, buildings were erected. Natural resources, including most importantly water, were viewed as commodities and nature was seen as something to be controlled or tamed. Although Lowell was originally developed with the intention of blending the factory into the pastoral landscape, as the industry and city grew through the 19th century pollution to the watershed and to the air degraded a great deal of the environment. Only with the growing environmental activism of the 1960s and 1970s did citizens and government act to attempt the repair of the Merrimack River watershed.

A. Waterpower: The textile companies turned the watershed into a system of dams and reservoirs, controlled by the mills of both Lowell and down river Lawrence.

Although the hydraulic system was highly engineered, the water itself was a "cheap resource" that gave the Merrimack River mills a huge competitive advantage until steam power became the favored power source by 1880.

What was done by the textile corporations to alter the hydraulics (and hence the landscape) of the watershed? How has the course of the river changed over time? How was water used in power canals, water supply, and in the textile manufacturing process? How did the canal system change over time? How did the mill owners view water resources and how were these views reflected in the laws governing the use of waterpower? Who controlled the water and how did this control change over time?

B. Pollution: The environmental history of the Merrimack River, as the first American river subjected to large-scale industrial development, provides important lessons in how watersheds should be protected for public value in the future.

Major consequences of the textile industry's development and the subsequent pollution of the river included the loss of the bountiful fish and wildlife of the river habitat and the agrarian way of life for communities along the river.

What were the major sources of pollution to the Merrimack River? How did these sources change and escalate over time? How was water pollution viewed by the public in the 19th century? How did social values change attitudes toward the natural environment? What accounts for these changing social values? What was done to reduce pollution to the watershed and what is the condition of the river's water today?

5. Building Community: Urbanization & Ethnic Culture

Lowell became the primary model for American manufacturing cities in the first half of the 19th century; it continues today as a colorful quilt of neighborhoods, home to immigrant families and diverse ethnic cultures.

A. Building the City: The textile corporations' early planning and physical development of Lowell, which included mills, boardinghouses, canals, roads, railroads, commercial buildings, churches, schools, and parks, was unprecedented in the first half of 19th century America.

Locks & Canals Co. (the company charged with the physical development of Lowell for the textile mills) plans, maps, and other documents, as well as the surviving built environment, give us many clues about what guided the planning of the new community.

Why were factories, houses, commercial buildings laid out and constructed as they were? To what extent was Lowell a consciously planned city and to what extent was the planning executed? How does Lowell contrast and compare with other industrial cities such as Paterson, NJ; Manchester, NH; and Lawrence, MA?

B. The Corporations and the City: Although planned and built by the corporations, and governed in its early years as a paternalistic factory town, the City of Lowell, by the late 19th century, established a measure of political autonomy but not its economic independence.

Issues such as public schools, public water supply, tax rates, and massive mill closings during the Civil War led to distrust and conflict between the corporations and the rapidly expanding city. These events foreshadowed the abandonment of Lowell by the corporations after World War I.

What was the evolution of the relationship between the corporations and the city? How much was the city dependent on the textile industry? How important economically and politically was the closing of the mills during the Civil War?

C. Immigration and Ethnic Culture: Lowell has evolved over 175 years to be a city rich in ethnic and working class culture.

Replacing the Yankee women workers as they gradually left behind deteriorating working conditions, immigrant families from diverse homelands came to Lowell to work and create equally diverse neighborhood communities that continue to give Lowell its rich culture. These communities with their ethnic-American hybrid cultures continue to serve important roles for heritage preservation for descendant generations, maintaining their own churches, institutions, and cultural linkages to their homelands.

What were the push-pull factors that led the diverse immigrant groups to leave their homelands and come to America and Lowell? What were the major ethnic groups in Lowell and how did this change? How did the immigrants adjust to life and work in Lowell? What were the major issues for the immigrants and their descendants in their process of assimilation and how have these issues changed over time? How have the physical dimensions of the new immigrant neighborhoods changed as workplace and other socioeconomic factors have changed? What has been preserved of traditional ethnic cultures in the communities of Lowell and why? What do recent immigrant groups do in Lowell?

D. Milltowns on the Merrimack: The Waltham-Lowell system of textile industry development spread along the Merrimack River spawning other major milltowns and industrial cities.

Manchester, NH, Lawrence, MA, and Nashua, NH followed the Lowell model and developed textile industries and communities. The same ingredients that went into Lowell--waterpower of the Merrimack, labor of the "mill girls" and immigrants, capital of the Boston Associates, and technological development--are found in large scale in all four communities. With four of the ten most manufacturing-intense American cities on the Merrimack, this was the most concentrated and large scale industrialization along one river way in America in 1850.

How closely inter-managed were the textile corporations of the four industrial cities on the Merrimack? What were the major differences in development among them? How did the immigrant populations differ in their ethnic origins and cultures?

E. Revitalization and Lowell's Future: Lowell is a "living museum" and an "educative city" for the purposes of preservation and education centered on the historic resources and cultural heritage of this uniquely evolved city.

The historic architecture and landscape of Lowell are highly significant resources, in which the federal and state governments, as well as the private sector, have invested millions of dollars to preserve. A variety of cooperating cultural organizations have been drawn to Lowell to enrich and educate the public about Lowell's unique history and culture. Just as it served as the model for developing industrial cities of the 19th century, to the extent it succeeds economically, Lowell will also serve as a model for revitalization of old industrial cities in the 20th and 21st centuries.

How will the historic structures and cultural resources of Lowell and the national park be preserved with limited government budgets and the fate of downtown businesses always uncertain? How will the continuing (over 150 years) problems of poverty, inadequate housing, and a variety of public safety and social issues be addressed in the ethnic neighborhoods? What kinds of work will be available for the new immigrants of Lowell and the succeeding generations of the mill workers? How will manufacturing work survive in the face of drastic economic adjustments and continuing corporation buy-outs and downsizing?

V. Interpretive Frameworks

As underscored in "Humanities and the National Parks: Adapting to Change" and "Revision of the National Park Service's Thematic Framework," it is important for NPS interpreters and historians to understand how academic historians, public historians, and museum professionals interpret American history. With that goal in mind, a series of interpretive frameworks, representing major currents in American historical writing over the past 30 years are presented here.

Whereas the interpretive frameworks will familiarize park staff with the principal historiographic patterns of professional historians who have analyzed industrializing America, the interpretive themes outline the major subjects explored by the park.

The growing collection of scholarly interpretations of Lowell's history is part of a larger body of historical work on the social, political, and cultural history of industrializing America. Over the past three decades, historians, social scientists, economists, political scientists, and others from various fields of study have developed a number of interpretive frameworks as means of exploring the nation's industrializing society. Debate over which interpretive framework offers the best way of understanding the social, economic, political, and cultural causes and consequences of America's burgeoning industrial-capitalist society in the 19th century remains lively.

The purpose of outlining these interpretive frameworks is to familiarize park service interpreters with the major approaches to American industrial history. It should be noted that the merits of each of these approaches remain the subject of widespread debate among historians. While no single interpretive framework is endorsed here, it is important that interpreters gain an understanding of the principal intellectual currents that make the study of American history a lively, provocative field and provide a measure of comprehension of the complex world in which we live.

The frameworks outlined below represent the principal approaches found in the historiography on the United States. Although this categorization scheme is to some extent more rigid than one finds in practice (indeed, there is much borrowing and reconfiguring of ideas within these various interpretive schemes) they offer a useful means of identifying key approaches in interpreting American industrialization.

Consensus Framework

The "Consensus School" (also referred to as the "neo-Progressive School") emerged in the 1950s in response to the "Progressive School" that had dominated American historical scholarship since the 1920s. Progressive historians, including Charles Beard, Frederick Turner, and Vernon Parrington, had placed economic conflict at the center of their analysis, viewing American political parties as representing competing social classes (e.g. business-minded Whigs versus the farmers and workers of the Jacksonian Democratic party in the early-19th century, or the monopolistic "trusts" versus the "people" in the late-19th century). In contrast, Consensus historians, led by Louis Hartz, Daniel Boorstin, and Richard Hofstadter,

stressed that the mutuality of economic interests among Americans, as well as their shared penchant for acquisitiveness, individualism, and pragmatism, outweighed any potentially destructive divisiveness. Moreover, unlike the European experience with feudalism and with rigid social classes, the United States offered its citizens greater economic opportunity and social mobility which resulted in a largely middle-class society. Consensus historians observed that although industrialization introduced profound social tensions within American society, the nation's democratic political system, its lack of radical ideologies, and unanimity over free enterprise as the best means of achieving social progress ameliorated class divisions and contributed to the nation's social harmony.

Marxist Framework

Prior to the 1960s, classical Marxist interpretations of history remained largely outside the American academy, finding expression instead in the writings and oratory of socialist and communist activists. Although historians such as W.E.B. DuBois, Howard Zinn, and Phil Foner produced important Marxist works dealing with African-American, economic, and labor history, they exerted only a marginal influence on the historical profession. For DuBois and other Marxists thinkers, class struggle was central to human history, which since feudal times was seen as accelerating toward global revolution that would ultimately produce a utopian and classless society. The process through which society was transforming itself, according to classical Marxism, was a dialectical one: the control of power by a monarchy and its nobility in medieval times (feudalism) was contested by an emerging bourgeoisie, out of which evolved a liberal bourgeois society (capitalism); the liberal bourgeoisie, in turn, was contested by a growing revolutionary proletariat, that would destroy it and form in its place a new collectivized society (communism). Because Marxist thought viewed knowledge as materially based and because it considered the control of material forces of production the source of class struggle, this process of social change was called dialectical materialism. A growing number of historians in the 1960s believed that a Marxist framework offered the best means of understanding social change occurring in industrializing America. According to Marxist historians, a rapidly rising and increasingly class conscious proletariat, impoverished as a result of poor working and living conditions, was confronted with a powerful capitalist class which represented only a small fraction of America's population but controlled the vast majority of the nation's wealth. The immiseration of the working class, exacerbated by capitalism's contradictory impulses--cutthroat competition, over-production, vagaries of the gold standard and of financial markets--would end only with the revolutionary overthrow of the bourgeoisie.

New Left Framework

The social, cultural, and racial tumult that America experienced in the 1960s deeply affected the nation and its educational and cultural institutions. Within the historical profession, a generation of younger scholars, representing a broader cross-section of American society and encompassing a growing number of women, became disenchanted with Consensus history as well as with classical Marxist interpretations of American history. On the one hand, Consensus history was viewed as interpretation from a decidedly middle-class, if not elitist, perspective and failed to account for the multitude of working-class citizens and immigrants whose

values and socioeconomic standing contrasted sharply with those of the propertied classes. On the other hand, classical Marxism, as seen in relation to the dogmatic ideology and oppressiveness of Stalinist Soviet Russia, was considered crudely deterministic and lacking in human agency. Out of this intellectual discontent, a new framework emerged that viewed class struggle as central to historical analysis, but saw cultural and social phenomenon rather than merely economic forces as shaping human history. Whereas Consensus historians de-emphasized the development of an American working class, New Left historians embarked on a quest to uncover the origins of an enduring working class and to demonstrate the crucial social transformative role it played in American life. New Left historians viewed the rise of industrial capitalism as an oppressive force that impoverished many, benefited only a minority, and threatened the foundations of American democracy. It was only through the revolutionary role of the working class that social and economic equality ultimately would be restored.

Modernization Theory

Advanced in the 1950s by sociologist Talcott Parsons and employed in the 1960s by historians such as Robert Wiebe, this theory views social change as the shift from a traditional, community-oriented, agrarian-based society to a more formal, institutionally oriented, urban-industrial society. Proponents of modernization theory maintain that America's shift from a "pre-modern" to a "modern" society occurred in the 19th century. According to Wiebe, ante-bellum North America contained widely dispersed "island communities" that featured decentralized economies with production geared toward local markets. Social cohesion was preserved by male-led families and tight kinship bonds. The importance of these "island communities" diminished after the Civil War with the rise of large, urban centers that, while more impersonal and less subject to family control, were undergirded by formal laws, contractual relationships, and bureaucratic institutions which represented competing interest groups and social classes. Modern society valued science-based knowledge over folk superstition and magic. Modernization theory holds that advances in scientific knowledge and technological innovation are essential to social progress.

Gender

The study of history through the lens of gender emerged in the 1980s from the field of women's history. While women's history had gained a degree of status within the historical profession in the 1970s, as its practitioners uncovered a vast and previously neglected array of material on women, much of the scholarship focused exclusively on females. These works added a great deal of rich historical information about female workers, the maternal roles of women in the family, the social and political reform activities of suffragists, abolitionists, utopian feminists, and temperance advocates, and the important contributions of female writers, artists, teachers, and members of various professional occupations. Yet many studied and analyzed the lives of women in spheres separate from those of men. As a result, the historical experiences of women often seemed isolated from the historical experiences of their male counterparts. This "separate spheres" interpretive approach thus not only limited the analytical power of women's history into all other areas of history, but also marginalized the field of women's history within the mainstream historical profession.

As Joan W. Scott, Joan Kelly, Carolyn Bynum, and others have demonstrated, one of the most promising approaches for enhancing the integrative potential of women's history into other historical fields is through the concept of gender. A gendered approach to history looks beyond biological differences between men and women, rejecting the deterministic notion that throughout history relations between women and men are best explained merely by the differing physiological characteristics of each sex. Instead, the concept of gender considers the more complex social and cultural constructions of male and female identities, relationships, and roles.

VI. Programmatic Accessibility

The following guidelines were prepared by Harpers Ferry Center (NPS) in September 1991. They should be applied to the development of any new interpretive programs as well as to revisions of existing programs.

Statement of Purpose

This document is a guide for promoting full access to interpretive media to ensure that people with physical and mental disabilities have access to the same information necessary for safe and meaningful visits to National Parks. Just as the abilities of individuals cannot be reduced to simple statements, it is impossible to construct guidelines for interpretive media that can apply to every situation in the National Park System.

These guidelines define a high level of programmatic access which can be met in most situations. They articulate key areas of concern and note generally accepted solutions. Due to the diversity of park resources and the variety of interpretive situations, flexibility and versatility are important.

Each interpretive medium contributes to the total park program. All media have inherent strengths and weaknesses, and it is our intent to capitalize on their strengths and provide alternatives where they are deficient. It should also be understood that any interpretive medium is just one component of the overall park experience. In some instances, especially with regard to learning disabilities, personal services, that is one-on-one interaction, may be the most appropriate and versatile interpretive approach.

In the final analysis, interpretive design is subjective, and dependent on both aesthetic considerations as well as the particular characteristics and resources available for a specific program. Success or failure should be evaluated by examining all interpretive offerings of a park. Due to the unique characteristics of each situation, parks should be evaluated on a case by case basis. Nonetheless, the goal is to fully comply with NPS policy:

> "...To provide the highest level of accessibility possible and feasible for persons with visual, hearing, mobility, and mental impairments, consistent with the obligation to conserve park resources and preserve the quality of the park experience for everyone." NPS Special Directive 83-3, Accessibility for Disabled Persons

Audiovisual Programs

Audiovisual programs include motion pictures, sound/slide programs, video programs, and oral history programs. As a matter of policy, all audiovisual programs produced by the Harpers Ferry Center will include some method of captioning. The approach used will vary according to the conditions of the

installation area and the media format used, and will be selected in consultation with the parks and regions.

The captioning method will be identified as early as possible in the planning process and will be presented in an integrated setting where possible. To the extent possible, visitors will be offered a choice in viewing captioned or uncaptioned versions, but in situations where a choice is not possible or feasible, a captioned version of all programs will be made available. Park management will decide on the most appropriate operational approach for the particular area.

Guidelines Affecting Mobility Impaired Visitors

1. The theater, auditorium, or viewing area should be accessible and free of architectural barriers, or alternative accommodations will be provided. UFAS 4.1.

2. Wheelchair locations will be provided according to ratios outlined in UFAS 4.1.2(18a).

3. Viewing heights and angles will be favorable for those in designated wheelchair locations.

4. In designing video or interactive components, control mechanisms will be placed in an accessible location, usually between 9" and 48" from the ground and no more than 24" deep.

Guidelines Affecting Visually Impaired Visitors

1. Simultaneous audio description will be considered for installations where the equipment can be properly installed and maintained.

Guidelines Affecting Hearing Impaired Visitors

1. All audiovisual programs will be produced with appropriate captions.

2. Copies of scripts will be provided to the parks as a standard procedure.

3. Audio amplification and listening systems will be provided in accordance with UFAS 4.1.2(18b).

Guidelines Affecting Learning Impaired Visitors

1. Unnecessarily complex and confusing concepts will be avoided.

2. Graphic elements will be chosen to communicate without reliance on the verbal component.

3. Narration will be concise and free of unnecessary jargon and technical information.

Exhibits

Numerous factors affect the design of exhibits, reflecting the unique circumstances of the specific space and the nature of the materials to be interpreted. It is clear that thoughtful, sensitive design can go a long way in producing exhibits that can be enjoyed by a broad range of people. Yet, due to the diversity of situations encountered, it is impossible to articulate guidelines that can be applies universally.

In some situations, the exhibit designer has little or no control over the space. Often exhibits are placed in areas ill suited for that purpose, they may incorporate large unyielding specimens, may incorporate sensitive artifacts which require special environmental controls, and room decor or architectural features may dictate certain solutions. All in all, exhibit design is an art which defies simple description. However, one central concern is to communicate the message to the largest audience possible. Every reasonable effort will be made to eliminate any factors limiting communication through physical modification or by providing an alternate means of communication.

Guidelines Affecting Mobility Impaired Visitors

1. Exhibit space will be free of physical barriers or a method of alternate accommodation shall be provided.

2. All pathways, aisles, and clearances will meet standards set forth in UFAS 4.3. Generally a minimum width of 36" will be provided.

3. Ramps will be as gradual as possible and will not exceed a slope of 1" rise in 12" run, and otherwise conform with UFAS 4.8.

4. Important artifacts, labels, and graphics, will be placed at a comfortable viewing level relative to their size. Important text will be viewable to all visitors. Display cases will allow short or seated people to view the contents and the labels. Video monitors associated with exhibits will be positioned to be comfortably viewed by all visitors.

5. Lighting will be designed to reduce glare or reflections, especially when viewed from a wheelchair.

6. Ground and floor surfaces near the exhibit area will be stable, level, firm, and slip-resistant. (UFAS 4.5)

7. Operating controls or objects to be handled by visitors will be located in an area between 9" and 48" from the ground and no more than 24" deep. (UFAS 4.3)

8. Horizontal exhibits (e.g. terrain model) will be located at a comfortable viewing height.

9. Information desks and sales counters will be designed for use by visitors and employees using wheelchairs, and will include a section with a desk height no

greater than 32 to 34 inches, with at least a 30" clearance underneath. The width should be a minimum of 32" vertical, with additional space provided for cash registers or other equipment, as applicable.

10. Accessibility information about the specific park should be available at the information desk and the international symbol of access will be displayed where access information is disseminated.

11. Railings and barriers will be positioned in such a way as to provide unobstructed viewing by persons in wheelchairs.

Guidelines Affecting Visually Impaired Visitors

1. Exhibit typography will be selected with readability and legibility in mind.

2. Characters and symbols shall contrast with their backgrounds, either light characters on a dark background or dark characters on a light background. (UFAS 4.30.3)

3. Tactile and participatory elements will be included where possible.

4. Audio description will be provided where applicable.

5. Signage will be provided to indicate accessible rest rooms, telephones, and rest room elevators. (UFAS 4.30)

Guidelines Affecting Hearing Impaired Visitors

1. Information presented via audio formats will be duplicated in a visual medium, either in the exhibit copy or by printed material.

2. Amplification systems and volume controls will be incorporated to make programs accessible to the hard or hearing.

3. Written text of all audio narrations will be provided.

4. All narrated AV programs will be captioned.

5. Allowance for Telecommunication Devices for the Deaf (TDD) will be included into information desk designs.

Guidelines Affecting Learning Impaired Visitors

1. Exhibits will avoid unnecessarily complex and confusing topics.

2. Graphic elements will be developed to communicate non-verbally.

3. Unfamiliar expressions and technical terms will be avoided and pronunciation aids will be provided where appropriate.

4. To the extent possible, information will be provided in a manner suitable to a diversity of abilities and interests.

5. Where possible, exhibits will be multi-sensory. Techniques to maximize the number of senses utilized in an exhibit will be encouraged.

6. Exhibit design will be cognizant of directional handicaps and will utilize color and other creative approaches to facilitate comprehension of maps.

Historic Furnishings

Historically refurnished rooms offer the public a unique interpretive experience by placing visitors within historic spaces. Surrounded by historic artifacts visitors can feel the spaces "come alive" and relate more directly to the historic events or personalities commemorated by the park.

Accessibility is problematical in many NPS furnished sites because of the very nature of historic architecture. Buildings were erected with a functional point of view that is many times at odds with our modern views of accessibility.

The approach used to convey the experience of historically furnished spaces will vary from site to site. The goals, however, will remain the same, to give the public as rich an interpretive experience as possible given the nature of the structure.

Guidelines Affecting Mobility Impaired Visitors

1. The exhibit space should be free of architectural barriers or a method of alternate accommodation should be provided, such as slide programs, videotaped tours, visual aids, dioramas, etc.

2. All pathways, aisles, and clearances shall (when possible) meet standards set forth in UFAS 4.3 to provide adequate clearance for wheelchair routes.

3. Ramps shall be as gradual as possible and not exceed a 1" rise in 12" run, and conform with UFAS 4.8.

4. Railings and room barriers will be constructed in such a way as to provide unobstructed viewing by persons in wheelchairs.

5. In the planning and design process, furnishing inaccessible areas, such as upper floors of historic buildings, will be discouraged unless essential for interpretation.

6. Lighting will be designed to reduce glare or reflections when viewed from a wheelchair.

7. Alternative methods of interpretation, such as audiovisual programs, audio description, photo albums, and personal services will be used in areas which present difficulty for the physically impaired.

Guidelines Affecting Visually Impaired Visitors

1. Exhibit typefaces will be selected for readability and legibility, and conform with good industry practice.

2. Audio descriptions will be used to describe furnished rooms, where appropriate.

3. Windows will be treated with film to provide balanced light levels and minimize glare.

4. Where appropriate and when proper clearance has been approved, surplus artifacts or reproductions will be utilized as "hands-on" tactile interpretive devices.

Guidelines Affecting Hearing Impaired Visitors

1. Information about room interiors will be presented in a visual medium such as exhibit copy, text, pamphlets, etc.

2. Captions will be provided for all AV programs relating to historic furnishings.

Guidelines Affecting the Learning Impaired

1. Where appropriate, hands-on participatory elements geared to the level of visitor capabilities will be used.

2. Living history activities and demonstrations which utilize the physical space as a method of providing multi-sensory experiences will be encouraged.

Publications

A variety of publications are offered to visitors, ranging from park folders which provide an overview and orientation to a park to more comprehensive handbooks. Each park folder should give a brief description of services available to the disabled, list significant barriers, and note the existence of TDD phone numbers, if available.

In addition, informal site bulletins are often produced to provide more specialized information about a specific site or topic. It is recommended that each park produce an easily updated "Accessibility Site Bulletin" which could include detailed information about the specific programs, services, and opportunities available for the disabled and to describe barriers which are present in the park. These bulletins should be in reasonably large type, 18 points or larger.

Guidelines Affecting Mobility Impaired Visitors

1. Park folders, site bulletins, and sales literature will be distributed from accessible locations and heights.

2. Park folders and Accessibility Site Bulletins should endeavor to carry information on the accessibility of buildings, trails, and programs by the disabled.

Guidelines Affecting Visually Impaired Visitors

1. Publications will be designed with the largest type size appropriate for the format.

2. Special publications designed for use by the visually impaired should be printed in 18 point type.

3. The information contained in the park folder should also be available on audio cassette. Handbooks, accessibility guides, and other publications should be similarly recorded where possible.

Guidelines Affecting Hearing Impaired Visitors

1. Park site bulletins will note the availability of such special services as sign language interpretation and captioned programs.

Guidelines Affecting Learning Impaired Visitors

1. The park site bulletin should list any special services available to this group.

Wayside Exhibits

Wayside exhibits, which include outdoor interpretive exhibits and signs, orientation shelter exhibits, trailhead exhibits, and bulletin boards, offer special advantages to disabled visitors. The liberal use of photographs, artwork, diagrams, and maps, combined with highly readable type, make wayside exhibits an excellent medium for visitors with hearing and learning impairments. For visitors with sight impairments, waysides offer large type and high legibility.

Although a limited number of NPS wayside exhibits will always be inaccessible to visitors with mobility impairments, the great majority are placed at accessible pullouts, viewpoints, parking areas, and trailheads.

The NPS accessibility guidelines for wayside exhibits help insure a standard of quality that will be appreciated by all visitors. Nearly everyone benefits from high quality graphics, readable type, comfortable base designs, accessible locations, hard-surfaced exhibit pads, and well-designed exhibit sites.

While waysides are valuable on-site "interpreters," it should be remembered that the park resources themselves are the primary things visitors come to experience. Good waysides focus attention on the features they interpret, and not on themselves. A wayside exhibit is only one of many interpretive tools which visitors can use to enhance their appreciation of a park.

Guidelines Affecting Mobility Impaired Visitors

1. Wayside exhibits will be installed at accessible locations whenever possible.

2. Wayside exhibits will be installed at heights and angles favorable for viewing by most visitors including those in wheelchairs. For standard NPS low-profile units the recommended height is 34" from the bottom edge of the exhibit panel to the finished grade; for vertical exhibits the height is 24-28", depending on panel size.

3. Trailhead exhibits will include an accessibility advisory.

4. Wayside exhibit sites will have level, hard surfaced exhibit panels.

5. Exhibit sites will offer clear, unrestricted views of park features described in exhibits.

Guidelines Affecting Visually Impaired Visitors

1. Exhibit type will be as legible and readable as possible.

2. Panel colors will be selected to reduce eye strain and glare, and to provide excellent readability under field conditions. White should not be used as a background color.

3. Selected wayside exhibits may incorporate audio stations or tactile elements such as models, texture blocks, and relief maps.

4. For all major features interpreted by graphic wayside exhibits, the park should offer non-visual interpretation covering the same subject matter. Examples include cassette tape tours, radio messages, and ranger talks.

5. Appropriate tactile cues should be provided to help visually impaired visitors locate exhibits.

Guidelines Affecting Hearing Impaired Visitors

1. Wayside exhibits will communicate visually, and will rely heavily on graphics to interpret park resources.

2. Essential information included in audio station messages will be duplicated in written form, either as part of the exhibit text or with printed material.

Guidelines Affecting Learning Impaired Visitors

1. Topics for wayside exhibits will be specific and of general interest. Unnecessary complexity will be avoided.

2. Whenever possible, easy to understand graphics will be used to convey ideas, rather than text alone.

3. Unfamiliar expressions, technical terms, and jargon will be avoided. Pronunciation aids and definitions will be provided where needed.

4. Text will be concise and free of long paragraphs and wordy language.